The
RUBBER AGE
The Only Twice-a-Month Rubber Publication

Vol. 19 NEW YORK, SEPTEMBER 10, 1926. No. 11

Complete Symposisum Program and Abstracts

Initiative of Rubber Division Officers and Cooperative Spirit in Industry Makes Success of Meetings Certain

Interest during the closing days of the arrangements for the Philadelphia meeting of the Rubber Division on Thursday and Friday, September 9-10 has been very keen in every quarter of the rubber industry and it can safely be said that the number of rubber chemists, factory executives and others interested in these meetings is the greatest in the history of the Rubber Division.

That such should be the case is of course fitting. Not only does this meeting bring together the greatest array of American and foreign chemists to speak on one general topic but it serves to link the executives and technicians in a bond which is sure to result in a better understanding of each others problems. That future similar meetings will be held is the hope of the sponsors of the Crude Rubber Symposium of 1926.

This meeting celebrates the tenth anniversary of the Rubber Division and the 72nd general meeting of the American Chemical Society. Coming as it does during the celebration of the 150th anniversary of America's Independence, which is represented by the Sesqui-Centennial International Exposition being held simultaneously in Philadelphia, the Symposium meetings take on an added importance for the hundreds who are in attendance.

This happy circumstance was used to great advantage by the Rubber Division Symposium Committee, headed by J. W. Bierer. To the foresight, initiative and energy of Mr. Bierer and his co-workers is attributed the success which the Symposium is sure to make. Mr. Bierer, Chairman of the Rubber Division, was the original sponsor of the idea for a symposium on crude rubber and chemists on every side are congratulating him and his committees for pushing ahead to completion the plans made several months ago.

The Banquet Committee, consisting of A. A. Somerville, chairman, E. A. Van Valkenburgh and R. P. Dinsmore have worked hard to insure a large attendance at the banquet and the result is that about 600 of the leading technicians and executives in the rubber and automotive industries will be on hand to hear addresses on the general topic of "The Relation of Research to Industry". The complete list of speakers at the Banquet with photographs will be found in this issue on page 489.

R. P. DINSMORE
Vice-Chairman, Rubber Division

J. M. BIERER
Chairman of the Rubber Division to whose initative, foresight and energy in bringing together the world's leading crude rubber experts is due the success now assured the Crude Rubber Symposium

A. H. SMITH
Secretary, Rubber Division

TITLES OF ALL PAPERS and COMPLETE PROGRAM

TUESDAY, SEPT. 7—2.00 P. M.
Business Meeting, Logan Hall, Univ. of Penn.

1. Business meeting. Election of Officers.
2. Ernst A. Hauser—"The Structure of Rubber".
3. Marion C. Reed and Cecil E. Boord—"Organic Polysulfides as Accelerators of Vulcanization".
4. Harlan A. Depew—"Rubber Lining for Acid Leaching Tanks".
5. W. J. S. Naunton—"Accelerators".
6. F. W. Staveley and N. A. Shepard—"Some Methods of Studying Cord Tire Fabric".

THURSDAY, Sept. 9.
CRUDE RUBBER SYMPOSIUM
[All meetings to be held in Room 17 Logan Hall, Univ. of Penn.]

9:30 A. M.— 1:00 P. M.

1. Dr. Edwin E. Slosson, Director of Science Service, Washington, D. C.—"The Importance of Rubber in Modern Civilization".
2. Dr. H. N. Whitford, Rubber Association of America, New York City—"The Wild and Plantation Rubber Production of Africa and Tropical America".
3. J. W. Bicknell, U. S. Rubber Company, New York City — "Botanical and Chemical Developments in the Plantation Industry".
4. Dr. A. van Rossem, Director of the Netherlands Government Rubber Institute, Delft, Holland—"Research on Raw Rubber at the Netherlands Government Institute at Delft".

2:00 P. M.— 5:00 P. M.

5. Dr. Henry P. Stevens, Consultant of the Rubber Growers' Association, London, England — "Recent Developments in the Preparation of Plantation Rubber".
6. Dr. W. B. McCallum, Botanist, Continental Rubber Company. Los Angeles, California—"The Botany of Guayule Rubber".
7. G. H. Carnahan, President, Continental Rubber Company, New York City—"The Production of Guayule Rubber".
8. Dr. David Spence, Vice-President, Continental Rubber Company, New York City—"The Chemistry of Guayule Rubber".

BANQUET

7:00 P. M.—at Hotel Benjamin Franklin
Toastmaster—J. C. Weston (*Ajax*)
Principal Address—C. F. Kettering (*Gen. Motors*)
"Relation of Research to industry".
Other Speakers—C. B. Seger (*U. S. Rubber*);
H. S. Firestone (*Firestone T. & R. Co.*);
P. W. Litchfield (*Goodyear*);
J. D. Tew (*Goodrich*);
Everett Morss (*Simplex Wire*);
J. F. Norris (*Amer. Chem. Soc.*);
Sir James C. Irvine.

FRIDAY, SEPT. 10.

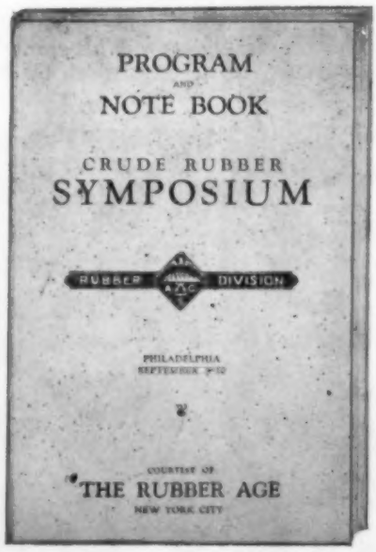
9.00 A. M.— 1.00 P. M.

9. Dr. Otto de Vries, Director of Research, Dutch Rubber Plantations, Delft, Holland — "Developments on the Dutch Rubber Plantations". (This paper will be read by Dr. A. van Rossem.)
10. Dr. William C. Geer, Vice-President, B. F. Goodrich Company, Akron, Ohio—"The President Status and Future Prospects of Synthetic Rubber". (This paper is by Dr. Weil of Germany, with comments by Dr. Geer.)
11. Dr. Philip Schidrowitz, Consulting Chemist, London, England—"The Direct Use of Rubber Latex with Special Reference to Vulcanized Latex".
12. Dr. Ernst A. Hauser, Frankfurt, Germany—"The Dissection of the Latex Globule Recorded by Micro-Motion Pictures." (Dr. Hauser will not be present but the motion pictures illustrating his subject will be shown.)
13. Dr. George L. Clark, Professor at the Massachusetts Institute of Technology—"X-Ray Contributions to the Analysis of the Structure of Rubber".

2.00 P. M.— 5.00 P. M.

14. Dr. G. Stafford Whitby, Professor at McGill University, Montreal, Canada—"Examination of Resins and Effect of Resins on the Quality of Rubber".
15. Dr. Ellwood B. Spear, Vice-President, Theramatomic Carbon Co., Pittsburg, Pa.—"Alternative Materials for Rubber".
16. William B. Wiegand, Binney & Smith Co., New York City — "Optimum Cure Criteria of Vulcanized Rubber".
17. R. P. Dinsmore, Chief Chemist, The Goodyear Tire & Rubber Company, Akron, Ohio—"The Composition and Structure of Rubber".
18. Dr. H. A. Winkelmann, Philadelphia Rubber Works, Akron, Ohio—"The Present and Future of Reclaimed Rubber".
19. C. C. Burgdorf, Germany—"Synthetic Rubber".

NOTEBOOK AND PROGRAM FROM THE RUBBER AGE

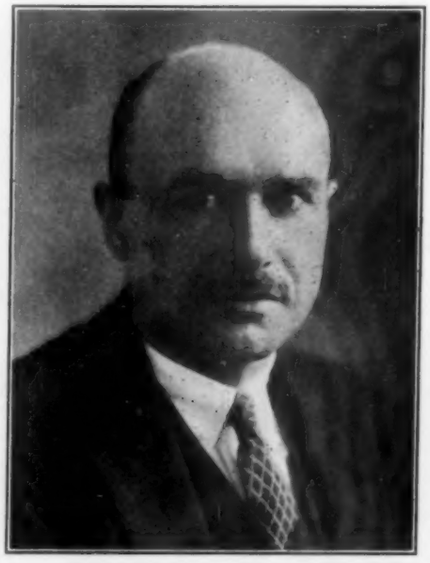


For the convenience of the many chemists attending the Symposium meetings, THE RUBBER AGE distributed an attractive 36-page notebook and program of which the above is an illustration. In addition to a complete program of events, it provided space for written notes on each paper delivered, as well as special forms on which questions could be sent in for the attention of the various speakers.

RUBBER DIVISION OFFICERS—1926
J. M. BIERER—Chairman
R. P. DINSMORE—Vice-Chairman
ARNOLD H. SMITH—Secretary
Executive Committee
W. E. Glancy, E. A. Van Valkenburgh, W. Scott, W. A. Gibbons, H. L. Trumbull.

BANQUET COMMITTEE
A. A. Somerville, Chairman
R. P. Dinsmore
E. A. Van Valkenburgh

A. A. SOMERVILLE
Chairman, Banquet Committee



E. A. VAN VALKENBURGH
Banquet and Executive Committee

ABSTRACTS OF PAPERS

Read at Business Session and Symposium Meetings

TUESDAY, September 7.

The Structure of Rubber

ERNST A. HAUSER

A critical review of recent X-ray research leads to certain general conclusions and to a new hypothesis of the structure of rubber. This hypothesis, which conforms to all facts so far observed, assumes that there is a performed definite orientation of the molecules, that even before stretching molecular aggregates of definite size are present, and that the only reason they are not revealed by X-ray examination is that they are swollen by the less highly polymerized hydrocarbon. When stressed the liquid phase is expelled, allowing the appearance of interference phenomena. The theory explains the elastic properties of rubber by assuming an equilibrium between hydrocarbons of the same chemical constitution of greater and less degrees of polymerization.

Organic Polysulfides as Accelerators of Vulcanization

MARION C. REED and CECIL E. BOORD

In view of current belief that accelerators are converted during vulcanization into so far unidentified derivatives which in turn give rise to active sulfur, derivatives of typical accelerators were prepared and their accelerating power determined. The derivatives prepared included polysulfides, and thioguanidines, and by determining their relative accelerating power, evidence was obtained for or against their probable formation from the corresponding bases during vulcanization.

Indications were that during vulcanization diphenylguanidine and piperidine form polysulfides, whereas triphenylguanidine reacts otherwise.

Rubber Linings for Acid Leaching Tanks

H. A. DEPEW

Laboratory tests show that probably compounded rubber mixtures offer a satisfactory resistance to sulfuric acid up to 50% concentration and to concentrated hydrochloric acid, though not to nitric acid. There was little to choose among the pigments incorporated in the mixture, even acid-soluble substances like zinc oxide and whiting resisting attack. Zinc oxide has other properties however which render it particularly favorable. The laboratory results were confirmed on a large scale, for an acid leaching tank lined with a rubber mixture 55% zinc oxide was in satisfactory condition after exposure for nine months to 20° Bé sulfuric acid at 60° C.

Mixtures containing reclaimed rubber can also be compounded to give satisfactory resistance to acids.

Accelerators

W. J. S. NAUNTON

An outline is given of work bearing on the relation between the chemical constitution and the accelerating power of amines and their thio derivatives, of phenyhydrazine and its thio acids, of diarylthioureas, of diarylguanidines, of dithio acids and of the salts of basic accelerators and dithio acids.

The accelerating power usually follows closely the chemical additive power of the compound, which points to at least one phase of acceleration being a chemical reaction. The accelerator may attach itself to the unsaturated centers of the rubber complex and thus open up the latter to attack.

Sals formed of two accelerators are in general inapplicable to the study of constitution and accelerating power, for in the presence of zinc oxide they generally behave as mixtures of the corresponding base and zinc salt of the acid.

Some Methods of Studying Cord Tire Fabric

F. W. STAVELY and N. A. SHEPARD

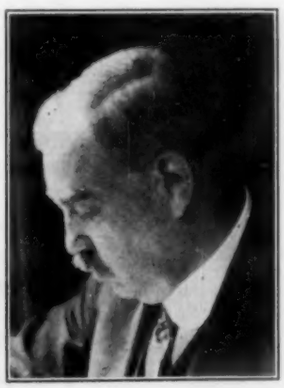
Hysteresis loss and flexing life are used as a measure of fatigue in tire cords. Hysteresis loss shows that the original properties of the cord are not maintained. The flexing test subjects the cord to repeated stresses and in the event of cord fabric failures in tire service is of value as a means of determining the desirability of changes in cord construction and of developing methods of improving the flexing life of a given type of cord.

Improvement in flexing life of a given cord may be brought about by impregnation with rubber cements containing compounding and vulcanizing ingredients. For uniform impregnation with maximum penetration, the solvent or liquid carrying the rubber should readily wet the cotton cord. When well impregnated each of the strands constituting a cord is completely covered with rubber, as can be demonstrated by subjecting single strands to the action of sulfuric acid. "Road tests" indicate that in the vent of fabric failure, the mileage of certain tires can be increased by increasing the flexing life of the fabric.

ERNST A. HAUSER

A. VAN ROSSEM

H. P. STEVENS



E. E. SLOSSON

THURSDAY MORNING

The Importance of Rubber in Modern Civilization

EDWIN E. SLOSSON

[Abstract not received in time for this issue]

The Wild and Plantation Rubber Production of Africa and Tropical America

H. N. WHITFORD

A review of the history of wild rubber production in tropical America and in Africa from 1900 to 1925 shows that of a total of 4,757,000 tons from all sources, 28 per cent came from tropical America and Africa, and that in the 1921-1925 period only 8 per cent of the total rubber produced came from wild sources. The present status of the sources of wild rubber is reviewed critically with the object of determining the possibility of increasing the production of wild rubber. Among the species considered are wild guayule rubber in northern Mexico, wild and planted Castilla rubber in tropical America, wild Para rubber on the Amazon, wild and planted Manihot rubber in northeastern Brazil, planted Hevea rubber in Africa and wild and planted rubber of species such as Landolphia, Funtumia, Castilla and Manihot.

Botanical and Chemical Developments in the Plantation Industry

J. W. BICKNELL

The youth of the plantation rubber industry is known to all and, therefore, the comparatively small advances made in knowledge of the propagation of rubber trees can be understood. Very few, if any, of the millions of acres of Hevea trees planted in the East were set out with any great degree of scientific knowledge. Desire to participate in the huge profits earned in the early years of the industry induced British and European investors to plant up almost any land available, and with any material available.

Probably the first widespread interest in scientific study of Hevea, from the plantation owners side, came when disease threatened the newly planted trees, and the first scientists engaged were for the most part men equipped to protect the trees from disease.

Most plantations were laid out with too large a number of trees per acre, and attempts to arive at a proper method of thinning out superfluous trees revealed the great variation in yielding capacity of Hevea. It was in seeking the proper thinning method that a hint of the possibilites of planting only with high yielding stock was developed. Experiments in thinning demonstrated not only variation but the general fact that a tree once a high yielder remains a high yielder.

In order to reproduce high yielding strains the budding method was developed, and the possibilities of this system in the way of increased production per acre seemed alluring. Certain disadvantages, however, have been indicated, and, like most problems in rubber planting, time will have to prove or disprove the value of budding.

The fact that the first consideration of the plantation owner is to get the most out of his present plantation hinders some in their view of the future. This necessity of making the best of the material at hand has helped progress in the way of soil conservation, cover crops, and most startingly in the application of manures to poor soils.

Research on Raw Rubber at the Netherlands Government Institute at Delft

A. VAN ROSSEM

Esters which are not extracted by acetone occur in raw rubber. By swelling in benzene and subsequent extraction with alcoholic potassium hydroxide these have been isolated.

Sulphur was found to be present in raw rubber, probably being a decomposition product of the proteins.

It was proved that iron under certain conditions has a detrimental effect almost comparable with that of copper, the rubber becoming tacky.

In these cases iron can be traced back to the acetone extract of raw rubber, which proves that soluble iron compounds have been formed. The possible mechanism of the oxidation reaction under the influence of iron is discussed.

THURSDAY AFTERNOON

Recent Developments in the Preparation of Plantation Rubber

HENRY P. STEVENS

Present methods of production of plantation rubber are on the whole satisfactory and radical alterations in the methods are unlikely. The aim is greater uniformity in all respects and freedom from blemishes. Various details are discussed, such as acid coagulants and their influence on the rubber, particularly on the rate of cure in the case of acetic acid, formic acid, sulfuric acid, alum and sodium fluosilicate; fungicides and preservatives; mouldy rubber and spotty crepe; the use of paranitrophenol and dinitro-ortho-cresol; smoking and supplies of fuel; the substitution of unsmoked for smoked sheet; blanket crepe and the influence of the temperature of drying; whole latex and sprayed rubber and a comparison with other types; fractional coagulation; tank sheet and pan sheet; rolling machines and air dripping; water-soaking, scrubbing, drying and packing.

H. N. WHITFORD

W. C. GEER

W. B. WIEGAND

G. S. WHITBY

G. L. CLARK

D. SPENCE

O. DE VRIES

The Botany of Guayule Rubber
W. B. McCALLUM
[*Abstract not received in time for this issue*]

The Production of Guayule Rubber
G. H. CARNAHAN
[*Abstract not received in time for this issue*]

The Chemistry of Guayule Rubber
DAVID SPENCE

The scientific literature on the guayule shrub and on its rubber product is reviewed from the chemical point of view.

Variations in the composition and quality of guayule rubber are the result of variations in the shrub itself, of the condition of the shrub at the time the rubber is extracted, of the method of extraction and of the method of purifying the rubber.

Deterioration of the shrub is the leading problem, both from the standpoint of yield and of uniformity in quality of the rubber.

Agricultural developments and chemical and physical tests of new improved products from the guayule shrub are described, together with a discussion of the potential possibilities of guayule rubber.

FRIDAY MORNING

Developments on the Dutch Rubber Plantations
OTTO DE VRIES
[*Abstract not received in time for this issue*]

Present Status and Future Prospects of Synthetic Rubber
WILLIAM C. GEER
[*Abstract not received in time for this issue*]

The Direct Use of Rubber Latex with Special Reference to Vulcanized Latex
PHILIP SCHIDROWITZ

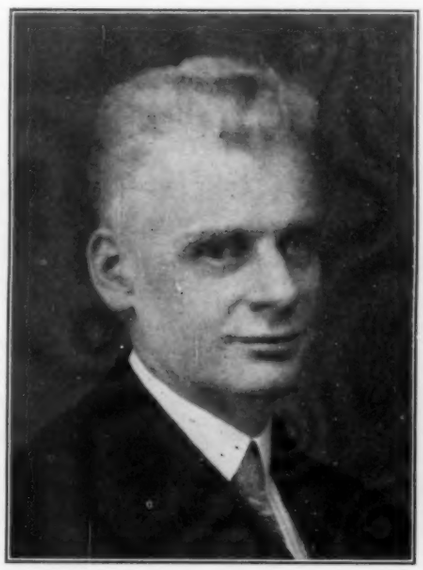
Early attempts were made to use latex directly, both in South America and subsequently in England. With the growth of the plantations interest was revived, and recent developments in the direct use of latex rest upon the work of numerous technologists. Latex can be concentrated and vulcanized and thus utilized for the manufacture of sheet rubber, proofings, dipped goods, fibre masses and various other types of goods.

The use of latex in general depends upon the properties of the V.L. rubber obtainable compared with ordinary rubber and upon the development of economic processes for concentrating or spraying vulcanized latex.

MOTION PICTURE
The Dissection of the Latex Globule Recorded by Micro-Motion Pictures
ERNST A. HAUSER

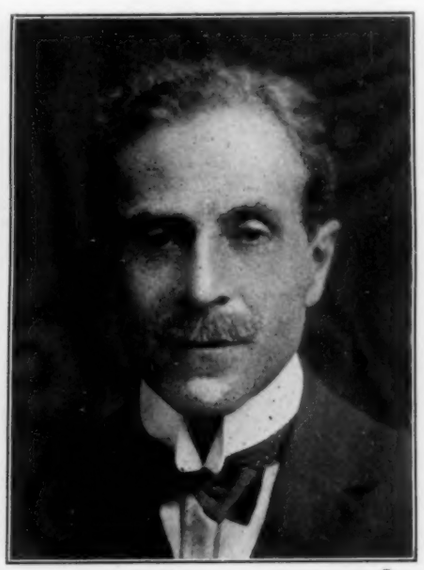
X-Ray Contributions to the Analysis of the Structure of Rubber
GEORGE L. CLARK

In view of the increasing use of X-rays in the study of colloidal and amorphous substances, the production, properties and present uses of X-rays are described briefly. X-ray researches on the structure of rubber by Pummerer and Koch,



C. C. BURGDORF

J. W. BISKNELL



PHILIP SCHIDROWITZ

Katz, Hauser and Mark, Ott and Clark are reviewed critically and correlated from the point of view of the experimental methods employed, crystalline substances present in unstretched raw rubber, the appearance of crystalline diffraction effects in stretched rubber and the relation between their intensity and the deformation, the effects of fillers, vulcanization, temperature and solvents, the crystal lattice of rubber, an interpretation of the mechanism of stretching and of the structure before and after and the possible existance of performed swollen aggregates. Following this X-ray studies of balata, gutta-percha and proteins in rubber latex are presented for the first time. X-ray diagrams of shellac show the possibility of following the polymerization of rubber and correlating this phenomenon with its structure.

FRIDAY AFTERNOON

The Testing of Raw Rubber
G. S. WHITBY

The chemical nature of the resin of rubber is reviewed, with a discussion of its influence on the aging of raw rubber and of the influence of its various components on the vulcanizing properties of the rubber. In this connection new data are presented, dealing with samples of rubber analysed at the Imperial Institute of London over twenty years ago and now analysed again.

Considerations of a speculative character are advanced respecting the evaluation of the hydrocarbon component of raw rubber, its relation to viscosity, and swelling and the causes of elasticity in rubber.

Alternative Materials for Rubber
E. B. SPEAR

The term "Alternative Materials" is used to designate substances already known, or yet to be discovered, that might be employed in the industries in the place of rubber. It is suggested that instead of attempting to produce a synthetic composition with the exact properties of the natural product, it might be more rational to try making materials with superior properties for specific purposes, such for instance as the insulation for a submarine cable.

The properties of rubber that come into play in insulated wire, waterproof shoes and automobile tires are subjected to analysis in considerable detail. The extent to which rubber and other well-known substances fails to meet modern requirements is discussed.

Optimum Cure Criteria of Vulcanized Rubber
W. B. WIEGAND

By recording for the first time current thought regarding the selection of proper cures, the aim is to place at the disposal of plantation research workers data to assist them in standardizing crude rubbers.

Criteria employed in the past are reviewed historically and critically, together with a discussion of the relation between the type of compound and the value of any criterion.

The distinction between optimum cure and technical cure is pointed out, and the value of tensile product as a quality index is emphasized. There is also included a discussion of such subjects as the relation between tensile product and the rate and degree of cure, between tensile product and energy of resilience or tear and between tensile product and aging, with illustrations of the methods of selecting technically correct cures in tires, footwear and mechanical goods.

The Composition and Structure of Rubber
R. P. DINSMORE

An outline of the most authentic work on the rubber hydrocarbon is presented, showing evidence of the chemical structure, unsaturation, and chemical activity. A similar outline is given for the acetone soluble by-substances and for the protein. Some new data are given for all three classes of material.

Direct evidence of structure is discussed and also many manifestations which must be explained by any theory of rubber structure. Some apparent contradictions are pointed out and new facts added. A brief discussion is given of certain theories and the need for confirmatory work is pointed out, with special reference to quantitative data.

The Present and Future of Reclaimed Rubber
H. A. WINKELMANN

[*Abstract not received in time for this issue*]

Synthetic Rubber in Germany During the War
C. C. BURGDORF

The necessities of warfare forced the German I.G. to produce artificial rubber in certain quantities.

The production was about 3000 tons yearly. The quality was excellent for hard rubber, but for soft rubber the product could be used only with certain additions and not for all purposes.

Practically all the rubber produced was made of polymerisation of Dimethylbutadiene obtained from acetone.

The greatest difficulty was the polymerisation, which gives very different qualities with nearly the same manufacturing conditions and, therefore, had to be supervised very closely.

The future of artificial rubber will depend on the price of the raw material, on a further study of polymerisation, and on the possibility of finding profitable uses for synthetic rubber possessing special qualities.

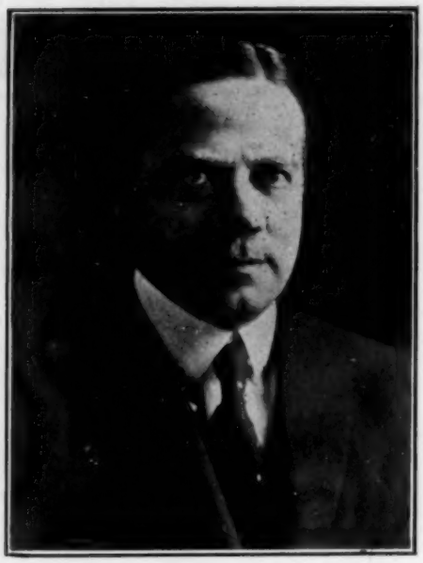
H. A. WINKELMANN

ELWOOD B. SPEAR

G. H. CARNAHAN

C. F. KETTERING

EVERETT MORSS



J. C. WESTON

SPEAKERS AT SYMPOSIUM BANQUET

Thursday, September 9 at 7 PM

at Hotel Benjamin Franklin

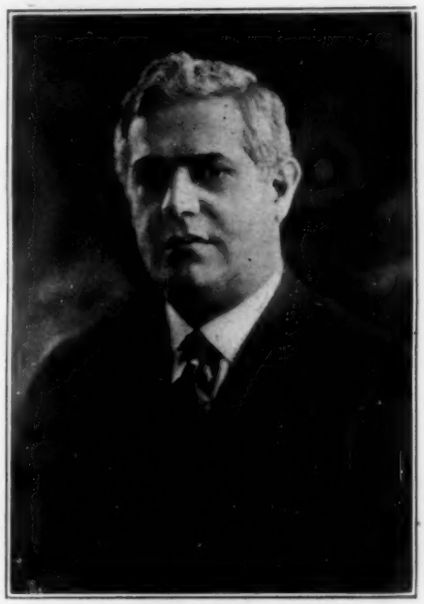
SUBJECT: *"Relation of Research to Industry"*

TOASTMASTER — J. C. Weston

PRINCIPAL ADDRESS BY — C. F. Kettering

OTHER SPEAKERS

P. W. Litchfield
H. S. Firestone
J. F. Norris
C. B. Seger
Everett Morss
J. D. Tew
Sir James C. Irvine



C. B. SEGER

J. D. TEW

P. W. LITCHFIELD

H. S. FIRESTONE

On this, OUR

SEMI - CENTENNIAL

We greet our friends
who will attend the

SESQUI-CENTENNIAL

International Exposition

—

BINNEY & SMITH CO.

Makers of

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REG. U.S. PAT. OFF.

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Sources of Rubber Chemicals

In Making Rubber Universally Useful, the Rubber Chemist Has Taken Advantage of Materials Coming From Almost Every State in the Union

ONE HUNDRED years ago rubber was a discouraging material of little or no real use. Today it is almost unexcelled in the number and importance of the ways in which it serves mankind. Yet the only difference is rubber chemistry.

To his wizardry the rubber chemist has called more and more assistants until today nearly every state in the Union furnishes some material that is used in fitting rubber to new uses and in making it serve old uses in a better way.

The accompanying map, which was first prepared by the Goodyear Tire and Rubber Company for use in its house organ, *Goodyear News*, shows some of the sources from which rubber chemicals and compounding materials are drawn. Almost as striking as the skill of the chemist in determining the best use of all these materials is the fact that the United States is rich enough in natural resources to find them all within its borders. The following paragraphs will assist in locating some of the sources more exactly:

Sulphur: Formerly most of the world's supply of sulphur came from Sicily, but some years ago vast deposits of it were discovered in Louisiana and it is to that source that the rubber industry now looks.

Zinc oxide: Some of the best known zinc ores are found in northern New Jersey while another excellent quality comes from the mountains of Tennessee.

Carbon Black: This material was first made extensively in West Virginia but the bulk of it is now manufactured in the gas fields of northern Louisiana. Other fields in eastern Kentucky, Oklahoma, Texas, Wyoming and Montana also produce limited quantities.

Clays: The most important source of rubber makers' clays is Georgia and the Carolinas. Georgia and Missouri also produce a clay containing a much higher percentage of alumina which is ground to a fine powder, has all grit eliminated and becomes the aluminum flake or pigment which is widely used in rubber factories.

Tripoli: Tripoli, or diotomaceous earth, is really the remains of tiny microscopic animals which formerly lived in lakes and swamps. These bodies of water having disappeared, the remains of the animals have reappeared in the form of a fine earthy powder. It comes originally from Nova Scotia and from some few localities near the Pacific coast but it is ground, purified and otherwise prepared for use in northern New York state.

Asbestine: This material is a fine earth powder which is identified under the microscope by its fibrous nature. It comes from northern New York state.

Asbestos fibre: This material, which is closely allied with asbestine, is used in the manufacture of packings. Its source is across the Canadian line, near Quebec.

Barytes: Barytes or barium sulphate is merely finely ground rock produced in Georgia and Missouri. The quality of the rock in those two states makes it possible to grind the smooth, clean quality demanded by the rubber trade.

Magnesia: Carbonate of magnesia is an exceedingly light, white powder which comes from large deposits in eastern Pennsylvania. The heavy calcined variety is

made from a rock which, because of its remarkable purity, was formerly imported from Greece.

Lime: The best and purest hydrated or rubber makers', lime comes from southern Indiana and Missouri although deposits in central Pennsylvania and West Virginia furnish considerable quantities.

Lead compounds: Litharge, carbonate of lead, sublimed lead and lead oleate comprising the lead group of compounding ingredients come originally from the lead deposits of the Ozark Mountains in Missouri.

Lithopone: This white pigment is formed from zinc sulphide and barium sulphate. The original sources of these materials have been mentioned.

Whiting: The natural grade of whiting is merely crushed chalk. A synthetic grade used in some factories is a by-product of the manufacture of soda ash and caustic soda.

Soapstone: This lubricating material is in reality talc. The best, purest and whitest variety comes from Ontario and cheaper grades come from Vermont. The latter, which are extensively used to dust all uncured and some cured stocks to prevent sticking, are crushed rock taken from the Green Mountains.

Mica: Pulverized mica replaces talc in certain places. The preferred grades are found in the mountains of North Carolina and New Hampshire. A brown variety of mica is found in Colorado but its dark color prevents its general use.

Graphite: This material is used principally as a lubricant in the manufacture of certain kinds of packing. Mexico is one important source for the relatively small quantities needed.

Colors: A wide variety of pigments are used to impart red, yellow, green and blue colors to rubber goods. Some of these are naturally occuring products while others must be prepared.

Mineral rubber: This material is made in various cities in Ohio, Pennsylvania and Illinois although the raw materials come from Oklahoma, Utah and Mexico.

Softeners: Various oil and tar products are used to render rubber compounds plastic during mixing. The former are made principally from Pennsylvania crude oil. The latter have their source in the southern states, notably Florida and Georgia. Degras is another softener. It is really the grease extracted from sheep's wool. The best grade comes from Massachusetts and Rhode Island.

Accelerators: One of the chief ingredients of the accelerators is aniline oil the principal supply of which is secured from chemical companies near Philadelphia. It is the product of an acid treated benzol and is the base of the aniline dye industry as well as the foundation on which are built most of the accelerators.

Solvents: The supply of special grade gasoline used widely in the rubber industry originates mainly in the crude oils of the Pennsylvania and Ohio fields. Benzol, which is a coal tar by-product of the coke ovens, is put on the market by many of the country's large steel companies operating their own ovens. Large factories manufacturing carbon tetrachloride are found in Michigan, western New York and elsewhere. The supply of carbon disulphide comes from western Pennsylvania. Denatured alcohol is from Maryland.

To the above list might be added many more products of which the rubber chemist has taken advantage in increasing the usefulness of rubber. The states whose products do not enter the rubber factory in one form or another would be found to be few indeed.

Effect of Heat on Rayon

H. T. Nones, assistant chief of the Textile Division, Bureau of Foreign & Domestic Commerce, Department of Commerce, has received the following letter from a tire fabric manufacturer who read Mr. Nones' article entitled "Using Rayon as a Tire Fabric" which appeared in the June 10 issue of THE RUBBER AGE:

"Your article regarding the possible use of rayon as a tire fabric is interesting but seems to the writer to omit one contingency that is vital.

"We have been manufacturers of tire fabrics since the inception of the rubber pneumatic tire and have at times done a good deal of experimenting with other fabrics. Our experimenting with silk disclosed the fact that silk fibre will not withstand the temperature which is required to vulcanize rubber and if rayon is similar to silk in its ability to withstand heat it can never serve as a tire fabric. Have you investigated this feature? If not, will you bear it in mind and if you can secure any data on it, will you advise us at your convenience?

"We have taken a piece of goods made with cotton and with silk and have taken a jet of steam and blown the silk all away, leaving nothing but the cotton. We have not thought rayon sufficiently important as a possibility in tire fabrics to have made any tests with it but would be much interested in knowing your reaction to the heat problem".

The paragraphs that follow are taken from Mr. Nones' reply:

"It must be remembered that rayon, chemically speaking, is pure cellulose, just as cotton is pure cellulose, and that these two fibres are therefore very much the same, in chemical composition at least. So far as I know, no official tests have been made on the resistance of rayon to high steam temperatures.

"I am enclosing a page from *Commerce Reports*, a weekly publication of this Bureau, issued November 9, 1925, in which reference is made to combustion tests in rayon and cotton yarns made by the Bureau of Standards. You will note that rayon, in general, as represented by the samples tested, is not more hazardous from fire than cotton, while some kinds present less hazard. The probable difference in susceptibility to ignition between the four different processes of rayon is probably due to the small amount of various chemicals remaining in the fibre.

"There was another test made on the combustion of rayon as compared with cotton and silk which was reported in an issue of the publication, *The Upholsterer*, along about last fall. This was a rather elaborate report and contained a series of photographs. Silk, like wool, is an animal product and neither seems to have the high heat resistance of the cellulose fibres such as cotton, rayon, jute, linen and ramie.

"In the absence, therefore, of any definite test on the steam heat resistance of rayon, may I point out one commercial practise which might serve as a criterion? Very often the rayon dyers do not successfully match a certain color. It is their practise, in many instances, to strip the skeins of yarn with live steam and boiling water, removing the first shade preparatory to redyeing. It would seem, therefore, that a good stout corded fabric material of rayon would withstand all of the heat necessary in the vulcanizing operation".

Science in the Rubber Industry

Confidence of the Rubber Manufacturer in the Application of Chemistry to His Business Justified by Four Developments

This paper by the late Lothar E. Weber was the last that he delivered. Had he lived, his next important address would have been at the Crude Rubber Symposium in Philadelphia. Strangely enough, this last paper of Dr. Weber's is on the general subject which will be discussed at the Symposium banquet, that is, the relationship of scientific research to industry. To a large extent the rubber industry is built on the ability of its chemists. Dr. Weber lists some of the developments which have been especially important.

FIFTEEN YEARS ago chemists were not a generally accepted part of the rubber industry, and those that were employed did not rise much above the dignity of routine analysis. But the last decade has seen a marked change in the attitude of the manufacturer, and it is now exceptional not to find the rubber chemists a vital part of the factory organization. As an illustration of what science and technology has accomplished in the rubber industry, I should like to review four developments that have justified fully the present confidence of the manufacturer in the application of chemistry to his business.

The first development that I call to your attention is that of accelerators. As you know, the pivotal operation in the manufacture of rubber goods is vulcanization. This operation consists in subjecting the rubber to temperatures varying from as low as 250 deg. F. to as high as 315 deg. F., or even higher. The average vulcanization temperature is about 290 deg. F., and is usually carried out in a cylindrical chamber, known as a vulcanizer, which is capable of being sealed hermetically, and into which steam is admitted. The article to be vulcanized is sometimes confined within a mold and at other times upon the surface of a shaper. Thus, an automobile tire is vulcanized within a mold, and an inner tube is vulcanized while stretched slightly over the surface of a mandrel acting as a shaper.

The time required for vulcanization is appreciable. Thus, a few years ago it required from two to three hours to vulcanize an average automobile tire, and not much less time was required for the vulcanization of an inner tube. The accelerator is a substance which is added primarily for the purpose of reducing this period of vulcanization, and with the aid of the accelerator it is possible to vulcanize tires and tubes in approximately one-third of the time formerly required.

It is obvious that with a given amount of equipment the possible output is in almost direct proportion to the time of vulcanization. By means of suitable accelerators it is possible to vulcanize in approximately one-third of the time which would be required in the absence of the accelerator, and this makes it possible for the rubber manufacturer to need approximately only 40 per cent of the equipment which he would need did he not have the accelerator. It is herein that the large saving of the accelerator lies. It is conservatively figured that the tire industry for molds alone spends $10,000,000 a year. The industry would have to spend at least two and a half times as much for molds did it not have efficient accelerators. Comparable savings have been possible in capital expenditures for vulcanizers, which, although simple in principle, are expensive to install and equip with the elaborate devices for controlling and maintaining uniformity of heat conditions within them.

There is a second advantage in the use of accelerators. Not only do they reduce the time of vulcanization, but they make the vulcanized product much less susceptible to overvulcanization. Ordinarily, if an article is vulcanized either for a longer period of time, or at a higher temperature than is necessary, so-called overvulcanization results, and this is very prejudicial to the life of the article. The accelerator exerts a braking or retarding action once vulcanization has been obtained, and thereby decreases the susceptibility of the rubber to overvulcanization, should either the time or temperature be in excess of the prescribed amount. Strictly speaking, of course, these irregularities ought not to take place, but they are exceedingly difficult to eliminate in commercial operations.

A third advantage of the accelerator is that it greatly enhances the properties of the vulcanized article: not only by adding toughness and tensile strength, but in that it renders the finished product much less susceptible to oxidation, and thereby prolongs the natural and active life of the article in question.

It is a remarkable fact that as a result of vulcanization the physical properties of crude rubber should be greatly improved, but that its stability is impaired. Crude rubber can be stored for many years without undergoing any observable change; in other words, the material is highly stable. This is not so with vulcanized rubber. The deterioration which vulcanized rubber undergoes as a result of natural aging is slow, but is nevertheless appreciable.

The Need for Anti-Oxidants

The deterioration of vulcanized rubber is thought to be due to oxidation, and much evidence has been accumulated to substantiate this theory. The inconsistency of the theory is the much greater stability of crude rubber, which is more unsaturated than is vulcanized rubber, and which accordingly should be more susceptible to combination with oxygen.

Corroborating the oxidation theory as explaining the deterioration of vulcanized rubber is the fact that this deterioration can be accelerated greatly by substances that are known to act as oxygen carriers. Notorious in this respect are the salts of copper and manganese, which have a marked oxidizing action upon rubber, either crude or vulcanized. Since substances are known which accelerate oxidation, presumably catalytically, it is only natural that effort should have been made to discover substances which retard oxidation, and within

Address before New England Association of Chemistry Teachers, Springfield, Mass., May 15, 1926.

the last few years notable accomplishments have been made in this field.

Substances that retard the oxidation of rubber, or in less technical language, increase its aging, have been styled anti-oxidants. Substances such as benzidene, beta-naphthol and certain of its derivatives have anti-oxidant properties. Even more marked are certain condensation products of aromatic amines and aldehydes. The addition of one or two per cent of these substances will actually double, if not triple, the natural life of a rubber compound. The use of these anti-oxidants furthermore makes a rubber compound much less susceptible to the deteriorating action of continued high temperature. The deterioration of rubber being presumably one of oxidation, it is only to be expected that deterioration increases with the temperature. Under these conditions the use of the anti-oxidant has been found to be of the greatest benefit, in that it has been possible with its aid to increase very greatly the life of a rubber compound exposed to continued high temperatures.

Reinforcing Agents to Increase Abrasive Resistance

The properties of rubber which have made it of such unique value are, in the first place, its plasticity in the unvulcanized state, because this enables the material to be manipulated and shaped; secondly, the elasticity of the vulcanized product, and, finally, the potential abrasive resistance of the vulcanized product. Vulcanized rubber, of itself, is not highly resistant to abrasion; but if suitable ingredients are incorporated into the rubber, prior to vulcanization, its abrasive resistance is unique. The substances which have the property of increasing the abrasive resistance of rubber are known technically as reinforcing agents.

The reinforcing agent which has been used by the rubber manufacturer the longest in point of years is zinc oxide. You may recall that up to within about 10 years ago nearly all automobile tire treads were white. This was because they contained large amounts of zinc oxide; in fact, the old white tire tread contained approximately equal parts of rubber and zinc oxide, the latter predominating slightly. In addition, of course, the necessary amount of sulphur was present. About 10 years ago the color of automobile tire treads changed suddenly from white to black. This change was not prompted by any dictates of fashion, but because it had been discovered that one of the oldest known black pigments had a very strong reinforcing action when added to rubber in suitable quantities; in fact, it produced a product which had almost double the abrasive resistance of that obtainable with zinc oxide. The black pigment, which has this remarkable property of increasing abrasive resistance, is carbon black, also known as gas black. Carbon black, as you know, results from the incomplete combustion of natural gas, the material being deposited upon a metallic surface which is in contact with the gas flame. It should not be confused with lamp black, which is produced by the incomplete combustion of an oil or resin, and collected as a smoke in settling chambers. Carbon black is the pigment used in the manufacture of printers' ink.

Resistance of Tire Treads to Road Wear

It is the practice today to incorporate anywhere from 30 to 40 per cent of this material, based upon the rubber present. Its use has become standard in all cases where high toughness and abrasive resistance is desired, since no other material has been found even to approach it in this respect. The reinforcing action of carbon black is truly remarkable.

In order to give numerical expression to the extent to which a rubber compound reinforced with carbon black resists abrasion, let us consider an automobile tire tread. As you know, the average thickness of a tire tread is approximately one-quarter of an inch. It is not unusual for a tire to deliver 15,000 miles before the tread is worn down. A simple calculation will show that in running this distance the tire has made approximately 10,000,000 revolutions; in other words, it has made 10,000,000 frictional contacts with the road under a load of 500 lb. (if we assume that the average automobile weighs 2,000 lb.), and the total thickness of the material that has withstood this huge number of frictional contacts is only a quarter of an inch. I think you will agree that the abrasive resistance of rubber is unique, but a large share of the credit must be given to the carbon black.

The desire to use again the rubber in discarded rubber articles is almost as old as the industry itself. So-called reclaiming processes made their appearance at least 75 years ago; but the methods employed today in the manufacture of reclaimed rubber are of more recent origin, being developments of the last 25 years.

In order to appreciate the principles involved in the manufacture of reclaimed rubber, let us consider once again the essential difference in the properties of crude and vulcanized rubber. This difference may be stated briefly by defining crude rubber as a plastic material without appreciable elasticity, while vulcanized rubber is a non-plastic material of high elasticity. Accordingly, the fundamental problem in reclaiming vulcanized rubber is the conversion of the non-plastic vulcanized rubber into a plastic mass, which will become again highly elastic upon revulcanization. The belief is widely held that if at the same time it were possible to remove the combined sulphur from the vulcanized rubber, enhancement in the value of the reclaimed rubber would ensue. I am inclined to doubt this, but in any case the matter is not of immediate interest for us because none of the reclaiming processes do remove even a portion of the combined sulphur. They merely convert the waste rubber into a plastic mass.

Reclaimed rubber is seldom used by itself; that is to say, it is nearly always used in admixture with some new rubber. It is not correct to regard reclaimed rubber as an adulterant or as a cheapener, since in the majority of cases its use fulfills a definite function and purpose. The importance of reclaimed rubber to the rubber manufacturer can best be judged by the fact that the American rubber industry this year will consume approximately 400,000 tons of rubber. The American reclaiming industry will produce at least 200,000 tons of reclaimed rubber. It is unnecessary then to point out what an important part reclaimed rubber plays in the industry, and what a vital factor it is in the conservation of available crude rubber supplies.

The Problem of Synthesizing Rubber

Of future developments, the problem of synthetic rubber will doubtless come to your minds quickly, in view of a possible future shortage of crude rubber. The synthesis of rubber is undoubtedly one of the most fascinating problems which the chemist could select for attempted solution; but its technical importance, to my mind, is completely overshadowed by a problem in the agricultural chemistry of rubber; or, let us say, in the plant biology of rubber. I have reference to the question of increasing the yield of rubber per tree. Under present practice the annual yield of rubber per tree is not much in excess of 4 lb. You may recall that at the inception of the beet sugar industry, the amount of sugar in the beet was approximately 2 per cent. The plant biologist has succeeded in increasing this percentage ninefold. It is probably fantastic to imagine that a percentage increase of a comparable magnitude is possible in the case of the rubber tree. However, the mere doubling of the yield would be an accomplishment without parallel, in my opinion, in its effect and results on the rubber industry of the world.

In its next issue THE RUBBER AGE will publish an article entitled "The Use of Furfural in the Rubber Industry" which has been prepared for its exclusive use by Carl S. Miner of the Miner Laboratories.

August Tire Production and Sales Believed to Have Set New Records

Goodyear Daily Output Rises to 46,000 Casings As Akron Total Nears 135,000— Car Production Higher.

August is believed to have been the most active month in the history of the American automobile tire industry. Both production and sales records were broken, according to the opinion of tire manufacturers who are awaiting the reports of the Rubber Association with unusual interest.

In spite of the fact that production set a new high mark, it is expected that a welcome reduction in tire and tubes inventories will be shown. The larger manufacturers have stepped up their output and cut into inventories at the same time in order to take care of the flood of orders which have been coming in from the dealers. Some of the "second string" manufacturers who had already depleted their inventories are said to be behind on orders for immediate delivery.

The last days of August saw Goodyear's production rise to 46,000 casings per day, a figure somewhat above what had been usually regarded as the capacity of the Akron plants. Orders are still being received in heavy volume and officials of the company are expected to make an effort to lift the production still farther, perhaps to 50,000 per day. These figures compare with an output of 35,000 casings per day earlier in the season.

Firestone is said to be manufacturing more than 30,000 tires per day and further production increases are planned. Goodrich is making between 25,000 and 30,000 casings daily. Smaller manufacturers in the Akron district are all just as busy. Practically every plant is running at capacity, on three eight-hour shifts. Tire production in the district reached 130,000 per day on several days in August, and during the closing week the output is believed to have been around 135,000. Earlier in the season the average daily production was less than 100,000.

Tire manufacturers in other districts have been none the less active. Trenton plants have been working overtime. Murray is reported as having three shifts of tire makers at work while Combination has been unable to keep up with the available business with two shifts. New England reports indicate that the same conditions pertain there.

The increased activity in Akron tire factories is having its effect on the labor situation. Goodrich, Goodyear, Miller, Firestone and General have all been hiring new men in appreciable numbers for the first time this year.

Warmer weather, the vacation season and lowered tire prices have all combined to bring about a most encouraging retail demand. The orders withheld by motorists while the conservation idea was receiving the most publicity are now reaching the dealer. Conservation no doubt resulted in many tire miles being saved but it is also sure that the motorists of the country never before entered the principal months of the motoring season with so few truly serviceable tires. The percentages of motorists carrying spares was far below normal and long inter-state vacation trips have forced their replacement.

During the first part of August the automobile industry proceeded at the slower rate which was adopted in July in which month production of cars and trucks was lower than in any month since February. During the latter part of August automobile factories were busy on new models and in a gradual acceleration in anticipation of increased business after September 1. Resumption of large scale production and sales is expected during the present month. October of last year was a month of heavy production and the same trend is looked for in the present season.

Opinions on the conditions that the automobile industry will encounter during the next year have been expressed by a number of automotive leaders for publication in the fortnightly review of G. M. P. Murphy & Co., New York brokers. All of them predict production and sales equal to or slightly greater than the past twelve months which has been around 4,000,000 cars.

SETTLEMENT OF MANVILLE JENCKES TAX CASE

The Manville Jenckes Company of Pawtucket, R. I., tire fabric manufacturers, has been granted partial relief by the United States Board of Tax Appeals from the determination of a deficiency of $257,864.70 in income and profit taxes in war time years. The company had claimed in its appeal that the Commissioner of Internal Revenue had made eight errors in disallowing items in its tax returns. Two of the claims concerned transactions with tire manufacturing companies.

In order to secure prompt payment by the Goodyear Tire and Rubber Company of a bill for $869,000 for tire fabrics in 1918, the Manville Jenckes Company made special concessions amounting to $18,701 and deducted the amount in computing its net income for the year. The deduction was disallowed by the Commissioner of Internal Revenue but his action was reversed by the Board of Tax Appeals which held that the amount "was more in the nature of a loss arising from the settlement or compromise of a valid claim" and was therefore clearly deductible.

Another disputed deduction concerned amortization on the buildings constructed by Manville Jenckes during the war. The basis of the company's claim was that the buildings had been erected to assist in prosecuting the war. The amortization was disallowed by the Commissioner when it was learned that the construction of the buildings was one of the conditions of a contract entered into with the Firestone Tire and Rubber Company in October, 1916, six months before the United States declared war against Germany.

The erection of new buildings appeared to be necessary in order to enable the company to deliver the 5,500,000 square yards of the tire fabrics annually which the tire company desired. The Board of Tax Appeals held that since the buildings were not actually erected until after the declaration of war, the previous contractual relations with the Firestone Tire and Rubber Company should not prevent amortization privileges since the facilities did serve in the prosecution of the war in spite of the fact that they would have been provided had war never been declared.

The detailed statement of the Board of Tax Appeals narrates an interesting history of the Manville Jenckes Company in the tire fabric field. The tire fabric business was first undertaken by the company in 1911. At that time the company and a subsidiary company were engaged in the production of cotton yarns and various cotton and silk fabrics of steady demand such as sateens and dress materials. The tire fabric business increased rapidly from the time it was begun, the production reaching 2,757,957 pounds in 1913 and 3,578,410 pounds in 1914. In 1915 it was decided to discontinue the manufacture of all textiles other than tire fabrics. The exclusive attention to that business continued through and after the war. At the present time, however, the company is interested again in a wide range of textiles.

Characteristics of Captax Reveal Its Applications as Accelerator

Details of Properties of Accelerator Captax Are Announced to Rubber Industry by Sales Licensee.

In our last issue* the first announcement was made of the acquisition of the sales rights to Captax accelerator by the R. T. Vanderbilt Company. This well-known accelerator was developed by the Goodyear Tire & Rubber Company and has been used for a number of years by that company exclusively. The rubber industry has long known of its use and the announcement that henceforth it would be available to manufacturers other than Goodyear was greeted with a great deal of interest by rubber chemists.

The following details on its characteristics, reactions, toxicity, use in compounds and handling, recently announced by Dr. A. A. Somerville of R. T. Vanderbilt Co., will furnish facts not heretofore generally known to the industry:

INTRODUCTORY

Captax is the trade name for the accelerator of vulcanization which is essentially composed of Mercaptobenzothiazole. It is not a new accelerator though it is just now being offered for the first time to the general rubber industry. Its activity lies in exactly that field or temperature range wherein most rubber goods will probably be cured during the next few years.

At this time it can rightfully be termed a semi-ultra accelerator. It can be used effectively and efficiently at 20 pounds steam pressure but it also shows a splendid range of cures at higher temperatures and at the lower temperatures corresponding to 5 or 10 pounds steam pressure it is not at all comparable in activity with the present day ultra accelerators.

In some plants some little added precaution or cooling equipment may be necessary in order to handle Captax easily.

PHYSICAL, CHEMICAL, AND BIOLOGICAL CHARACTERISTICS

Mercaptobenzothiazole crystallizes from alcohol in needles which melt at 174° C. (B, 24, 1403) or 179° C. (B, 20, 1789). It is very slightly soluble in water but soluble in alcohol, ether, chloroform, and tetrachlorethane. It is also soluble in alkalies and ammonia forming the corresponding mercaptide. Solubility in water=0.25 gm. per 100 cc. at 25° C. Sp. Gr. 1.42. It has a very bitter taste.

When precipitated from a dilute alkaline solution it is a yellow amorphous powder which when dried does not have to be ground and sifted before compounding.

Captax is the product obtained by heating thiocarbanilide and sulphur in an autoclave. The pure form is also obtained directly by heating carbon bisulphide, aniline and sulfur together in an autoclave until reaction is complete. The product is purified by solution and precipitation, filtered, washed, dried, and sifted. Pressure relations make the end point easy of determination, thus insuring a uniform product.

REACTIONS

It can be oxidized with sulphur, iodine, potassium lichromate-hydrogen peroxide, etc., to the disulphide. The best method is to oxidize in 50 percent acetic acid with iodine.

It forms mercaptides with the heavy metals, all of which are insoluble. The alkaline and alkaline earth mercaptides are all soluble in water. It reacts with phenyl mustard oil to form anilido-benzothiazole.

Fusion with potassium hydroxide converts it to o-amino-thiopheno. It forms a compound with diphenylguanidine.

TOXICITY

Captax is not harmful to a workman, it is not poisonous if eaten and does not cause any kind of a skin rash in any kind of weather. It does not stain nor discolor anything with which it comes in contact.

COMPOUNDING

A small amount of zinc oxide is required in all stocks containing Captax and black stocks are improved by the addition of a fatty acid or soap such as stearic acid, oleic acid or zinc stearate.

In pure gum stocks about 0.35 to 0.40% of Captax with 2.5% to 3.5% sulphur on the rubber is satisfactory. In black stocks slightly higher amounts are desirable. From 0.4% to 0.6% or a maximum of 0.8% Captax on the rubber content should be used in tire treads depending upon the speed of cure desired.

When curing at 20 pounds steam pressure slightly higher amounts of Captax and sulphur are needed than when curing at higher temperature. The addition of a moderate amount of alkali tire reclaim in a tread stock shortens the cure 25 to 30%.

Captax can be used in every part of a tire, belt or hose. In a friction or pure gum it produces a moderate breaking tensile of about 3,000 pounds per sq. in. with a high stretch and an unusually low stress at an elongation of 300% to 500%. In other words, it produces a soft friction which may be still further softened by the use of mineral rubber and pine products and if desired may be strengthened by the addition of zinc oxide or thermatomic carbon.

In a tread or cover stock reinforced with carbon black it produces a high stress modulus when stretched 300%, a breaking srength of about 4,000 pounds per sq. in. and an unusually long curing range.

Captax is activated by other accelerators but there is little need for other accelerators to be used in conjunction with it.

Unusually high amounts of reclaim can be used in a Captax stock and still produce a high grade article.

FACTORY HANDLING

Captax will scorch on a hot mill or calendar in a short time. It will also set cure at lower temperatures in a longer period. It is therefore desirable to withhold the sulphur in mixing until the very end, making sure before addition that the batch is not excessively hot. For Banbury mixing the sulphur should be added on the batch-off mill.

Stock taken from the mill should be slabbed off in thin sheets (¼") and must not be piled up hot. Immersion in water or hanging in air is recommended. Calendered stock must be run into liner at moderate temperature. Pre-cooling is desirable. Tubed stock may be run into a tank of warm water.

Proper softening of the compound with the less volatile solvents such as pine tar oil is highly desirable as that permits the stock to be calendered or tubed at lower temperatures and so does not necessitate so much after-cooling.

*THE RUBBER AGE, August 25, 1926, Page 436.

GOODYEAR OFFICIALS UNCONCERNED OVER SUIT

The suits filed in the Supreme Court of Ohio attacking the legality of the "management" stock of the Goodyear Tire and Rubber Company of Akron are not regarded seriously by the officers of the company who have issued the following statement in reference to them:

"The litigation affecting one phase of the Goodyear Tire and Rubber Company reorganization in 1921, which, according to press reports, has been instituted at Columbus, O., raises no new question. The company expects in due course to meet the issues so involved".

It is expected that the case will be heard early in September. It was filed on August 24 by Prosecuting Attorney G. W. Booth of Summit County in which Akron is located.

As mentioned briefly in the last issue of THE RUBBER AGE, the suits allege that the issuance of 10,000 shares of management stock during the Goodyear reorganization in 1921 was illegal and on that basis it is asked that the present Board of Directors be ousted and the company be restrained from exercising its corporate powers in Ohio.

When the Goodyear Company was in difficulties in 1921 and sought aid from the banks, one part of the financial reorganization called for the issuance of 10,000 shares of special stock of a par value of $1.00 whose holders would have a right to elect a majority of the Board of Directors. This stock was said to have been issued to three "joint tenants" whom the prosecutor did not name. He alleges that the special shares are really only preferred stock and their issuance with power of control was illegal.

In a statement given to the press after the suits were filed, Mr. Booth said:

"The cases were commenced upon the complaint and at the request of a stockholder of the company and is a method prescribed by statute in bringing matters of this kind to the attention of the State authorities.

"Upon consideration of such complaint, the data submitted and an examination of the law bearing upon the subject, I concluded that the complaint is well founded, that there is a good reason to believe that the same can be established by proof. These cases have no relation to the business affairs of the company, which I understand are in excellent condition."

Mr. Booth did not reveal the name of the stockholder making the complaint. A controversy has recently arisen between Goodyear officials and stockholders over the payment of accrued dividends of $29.75 per share on the company's preferred stock. President P. W. Litchfield informed stockholders on August 18 that the company was considering a plan for the reorganization of its capital structure and advised stockholders not to give proxies to any protective committee until the company had had a chance to complete and announce its plan.

The filing of the suits has aroused some criticism in and around Akron by people who feel that the prosecutor did not have a sufficient basis for action. Mr. Booth maintained, nevertheless, that the move was made solely in the performance of his duties as prosecuting attorney.

Thompson Convinced of Practicability of Philippines as Rubber Producing Area

Visits Three Rubber Plantations in Basilan Which Have Been Successfully Operated With Filipino and Moro Labor.

Colonel Carmi Thompson, Philippine investigator extraordinary, has examined the rubber plantations on the island of Basilan and is convinced of the practicability of developing a large rubber plantation industry in the islands. It is expected that his report to President Coolidge, under whose special orders he is working, will reflect the impressions gained from the day spent on Basilan Island.

The interest of the few Philippine rubber growers and the many American rubber consumers in Colonel Thompson's mission has been growing since he started south from Manila a fortnight ago. It was sure that one of the early sidetrips from Zamboanga, capital of Mindanao and the largest city in southern islands, would be in the direction of Basilan where the scant 3,000 acres of Philippine rubber plantations are centered.

The fifteen-mile trip from Zamboanga over the Sulu Sea to Isabela, the port of Basilan, was made on a pearl fishing sloop. Colonel Thompson's first visit outside the city was to the nearby plantation of the American Rubber Company which has about 1,700 acres of planted rubber. The two other rubber plantations on the island were also visited but neither of them is as large as that of the American Rubber Company. The Basilan Rubber Plantation Company has about 800 acres of rubber and the Zamboanga Development Company has a little over 100. The only other rubber plantation in the Philippines is that of the Rio Grande Rubber Company located on the island of Mindanao and not yet in bearing.

Dr. J. W. Strong, a pioneer in Philippine rubber growing and now manager of the plantation of the American Rubber Company, received Colonel Thompson. The net profit of the company last year, Dr. Strong said, was 16 per cent. He told his visitor that the Moros and Filipinos work together peaceably at a basic wage of 60 cents per day. Despite the recently expressed legal opinion that the Philippine land law restricting holdings to 2,500 acres cannot be circumvented by the establishment of subsidiary companies, Dr. Strong still believes that the land problem may be solved in that way. However, he told Colonel Thompson that the law should be amended to permit corporations to lease acreages ten times as large with additional provisions for homesteading by natives.

There was no question as to Colonel Thompson's being convinced by the Basilan plantations that the Philippines were suitable for rubber. After the tour was completed he made a brief address at Isabela.

"There are many reports of great areas available for rubber in the Philippines", Colonel Thompson said, according to a special correspondent of the New York Times, "but so far as I know this island is the scene of the only practical test. I am glad to learn that the test is successful. The plantations appear to be prosperous and producing satisfactorily. Undoubtedly this is the beginning of a great rubber industry.

"The success of the Basilan rubber planters convinces me that a rubber industry could be developed in the Philippines which would make the United States independent of any foreign rubber control and keep pace with the automobile tires and other rubber goods required by the American people within reasonable limits.

"According to the Department of Commerce, 1,500,000 acres in Mindanao and Basilan and in Sulu archipelago are available for future rubber cultivation. This in time would provide the United States with more than half its needs. The soil and the climate are said to be as favorable for success as in Malaya, Sumatra and elsewhere in the Middle East where the bulk of the world's rubber is now produced.

"Filipino labor is said to be more efficient and intelligent than labor in the Middle East. From what I have seen of the Filipino laboring classes I am very much impressed with their physical vigor, skill and willingness to work. What is needed is capital, if the Filipinos are to produce rubber in large quantities in the near future. I have found many Filipinos apparently eager to attract American capital for rubber development under restrictions that would prevent foreign exploitation."

From Basilan Colonel Thompson returned to Zamboanga to continue his tour through the southern islands. A large part of the territory he has yet to inspect is potential rubber land.

PARTS AND ACCESSORY BUSINESS PICKING UP

While the mid-summer slackness which prevailed in the automotive parts and accesory field resulted in a falling off in the July business, preliminary reports indicate a larger turnover in August and all indications in the industry point toward a steady upturn of production and sales through September and October, according to the Motor and Accessory Manufacturers Association.

On the basis of 100 in January, 1925, the volume of the July shipments was 133, as compared with 141 in June, 151 in May, and 161 for April. The total shipments for the first seven months, however, are somewhat larger than in the same period last year.

The aggregate business in the accessory line for July was 127% of January, 1925, as compared with 140% in June and 183% in May. Shipments of parts and accessories to car and truck manufacturers were lower than any previous month of this year. A similar falling-off occurred in the shipments of replacement parts to the wholesale trade. The volume of business in repairshop machinery and tools declined from 184% in June to 142% in July.

FIRESTONE TO VISIT LIBERIAN PLANTATION

Harvey Firestone, Jr., sailed recently for London on the first lap of a journey to Liberia, where he will visit the rubber plantations of the Firestone Tire and Rubber Company in that country.

Mr. Firestone will spend some time in the London offices of the Firestone Plantations Company, the concern which directs the Liberian development, and will leave for Monrovia about September 20th, accompanied by M. A. Cheek, the company's plantation expert. He plans to spend about six weeks surveying the work which has already been accomplished on the Firestone plantations and outlining plans for future development. Renewed activity in the development of this project is expected to result from his visit.

According to Firestone officials, the preliminary difficulties to the growing of rubber in Liberia has been largely overcome. Modern sanitary methods under the supervision of American physicians have reduced the danger of disease to a minimum. Work on an intra-plantation system of roads is underway, and preparations are being made for the establishment of necessary shipping facilities at Monrovia.

Only about 2,000 acres of the project are now in bearing and it will probably require seven or eight years before the newly laid out plantations will come into bearing, Firestone officials assert. Donald Ross, former manager of a British rubber plantation in the Middle East, is in charge of the Firestone development.

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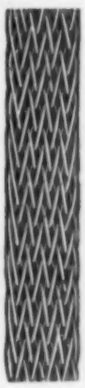

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RAW MATERIALS RESERVE FUND USED BY GOODYEAR

Net sales of the Goodyear Tire and Rubber Company, exclusive of subsidiary companies, was $97,835,456 for the first six months of 1926. Combined net sales of the Akron, Canadian and California companies and foreign branches were $116,788,924 for the same period.

Half year earnings of $4,014,873 were piled up without the use of any part of the special raw material reserve set aside at the end of 1925. However, inventories on hand June 30 have been written down to market by applying $5,185,936 of the special raw material reserve which has accordingly been reduced from $7,500,000 to $2,314,064. This remains as a provision for such contingencies as may arise in the last six months of the year. During the first six months when the price of crude rubber was receding from 90 cents to around 40 cents Goodyear was obliged to liquidate a high cost rubber position in the face of a declining selling price for finished products.

"This liquidation is now nearing completion", President P. W. Litchfield stated. "Crude rubber is again being purchased for future operations at prices more nearly normal and our current volume of sales is extraordinarily large. It would therefore appear that the hazards involved in the recent inflation of crude rubber costs are largely back of us and that normal operations are close at hand."

Study of the company's balance sheets shows inventories at cost or market, whichever is lower, listed at $49,463,212.93 under current assets. Accounts and notes receivable, less reserves, are given at $18,868,336.77 under current assets and cash at $4,547,193.68.

Under current liabilities accounts payable are given as $7,167,528.19 and rubber acceptances payable as $7,389,000.

Details of Goodyear earnings per share during the first half year were published in the last issue of THE RUBBER AGE.

HOOD EXPECTED TO SET SALES RECORD THIS YEAR

The quickening of the automobile tire business after the indifference of the spring and early summer months is expected to carry the Hood Rubber Company, Watertown, Mass., to new sales records. July was next to the largest month in the company's history and during August officials of the company were estimating that sales for the month would run $750,000 ahead of August, 1925. The outlook for September was said to be even better.

Despite the poor start made in the current year, Hood's sales volume for the present year is expected to exceed previous years by a considerable margin. Given reasonably early snow to stimulate winter sales of rubber footwear, the total business for fiscal-year 1926-1927 would easily top the record volume of $38,592,000 attained in the year ended March 31 last.

LATE PRICES OF RUBBER AND MOTOR STOCKS

RUBBER

	Last Price Sept. 3	Last Price Aug. 18	Record High	Record Low	1926 High	1926 Low	1925 High	1925 Low	Capitalization	Par Value	Earned Per Share-1925	Earned Per Share-1924	Dividend Rate	Funded Debt
Ajax	8¾	9	113	4¾	16	7½	15⅝	9½	500,000 sh.	None	$2.01	$1.56	None	$2,385,200
Faultless	41	42	54	25½	43½	34	51	26½	58,208 sh.	None	6.00 (i)	—	$2.	None
Firestone	108½	108½	205	48	125	100	145	96	$3,517,710	$10	27.89	13.60	6	1,500,000 (a)
do 6% pfd.	102	102	105	75	103½	99	102½	97½	8,000,000	100	159.17	83.40	6	——
do 7% pfd.	97	96½	101	55	100	96½	101	96	18,380,900	100	140.24	67.79	7	——
Fisk	18⅜	18⅜	55	5⅞	26¼	14¼	28¾	10½	811,827 sh.	None	4.26	.85	None	20,200,000
do 1st pfd.	79½	80	116½	38⅛	84¼	76⅞	116½	75½	18,198,900	100	30.60	11.80	7	——
General	155	150	415	140	375	140	415	233	1,995,400	25	44.35 (b)	34.89 (b)	None	None
do pfd.	110(k)	107	110	101	110	106	105	101	1,072,100	100	175.84	139.83	7	——
Goodrich	51½	50¼	93⅜	16	70¾	45½	74¾	36¾	601,560 sh.	None	21.74	9.11	4	38,162,500
do pfd.	96⅞	96	114½	62½	100	95	102	92	37,472,000	100	51.57	27.95	7	——
Goodyear Com.	34⅜	35⅝	49¾	7½	40	28	49¾	24¾	830,768 sh.	None	15.62	5.14	None	55,726,000
do pr. pfd.	108⅛	108½	109	88	108⅝	105⅜	109	103	15,000,000	100	140.04	81.08	8	——
do pfd.	107	107¾	114⅝	22	109¾	98½	114⅝	86⅛	65,079,600	100	29.45	16.07	7	——
Hood	58	57⅞	72	43	68¾	57⅛	72	52	120,000 sh.	None	15.48	—	4	6,000,000
India	30(k)	—	176	30	165	30	176	160	63,659 sh.	None	6.69	4.47	2.50	None
Intercontinental	16	16½	35	2	21¾	13½	19⅞	5	603,824 sh.	None	1.53	2.93 (c)	1	None
Kelly Springfield	13¾	13¼	164	9¾	21½	12¼	21⅝	12¾	8,896,000	25	1.93	nil	None	6,500,000
do 1st pfd.	63	61	145	40	74¼	61	74	41	2,950,000	100	49.24	51.72 (d)	None	——
do 8% pfd.	52	51	110¼	33	73¾	51	72	43	5,264,700	100	24.23	32.34 (d)	None	——
Lee	7¾	7⅞	56½	8	14	6¾	19	11⅝	300,000 sh.	None	1.40	nil	None	None
Miller	38	38¾	44¾	30	44¾	30	246 (e)	30	260,088 sh.	None	11.50	29.28	2	None
do pfd.	100¼	100	114	45	104	98½	106½	100	12,451,600	100	28.38	25.91	8	——
Mohawk	42	24½	91	35	65	35	85	55	20,000 sh.	None	22.16	10.31	None	None
do pfd.	73(k)	70	80	70	80	70	80	79⅝	1,963,265	100	29.57	17.49	None	——
Norwalk	7⅞	7⅛	19¼	7⅛	15⅛	7⅛	19¼	12½	1,495,000	10	2.22	nil	.80	None
Seiberling	23	24½	37	19⅛	28½	19⅛	37	23⅝	192,626 sh.	None	4.03	5.50	None	1,500,000
do pfd.	95(k)	94	101½	92	97	92	101½	95½	818,600	100	137.29	95.50	8	——
Star		—	20	10	15	12	20	10	17,322 sh.	None	—	1.60	None	None
U. S. Rubber	65⅛	59⅞	143¾	7	88¼	50¼	67½	47	81,000,000	100	14.92	3.88	None	113,120,800
do pfd.	106¾	107	123½	30¼	109	101½	108⅞	92¾	65,110,000	100	26.56	12.85	8	——
U. S. Rubber Reclaiming	13⅞	—	21¼	11	21¼	11	17¼	11	86,670 sh.	None	—	—	None	None
do pfd.	90	90	90	21	90	85	85	45	2,000,000	100	—	—	8	——

MOTORS

Dodge Bros. "A"	30⅛	30⅝	48¾	21¼	47¼	21¼	48¾	21¾	1,934,563 sh.	None	6.57	4.76	None	59,485,000
General Motors	208⅝	205¾	225¾	55¾	225⅝	113¼	149¾	64⅝	8,600,000 sh.	None	19.15	7.37	16 (f)	23,724,000 (g)
Hudson	66¼	67¾	139½	19½	123¼	49⅝	139½	33¾	1,596,660 sh.	None	16.05	6.11	3.50	None
Hupp	26⅛	27½	31	2⅛	28⅜	17	31	14⅛	9,138,090	$10	4.15	1.76	1	None
Jordan	21	23¾	66	21	66	21	65	35⅜	126,000 sh.	None	2.91	4.03	3	None
Moon	23½	23⅛	42	9⅛	37⅜	23⅛	42	22¾	180,000 sh.	None	6.13	3.11	3	None
Nash	59½	58	66	52	66	52	488 (e)	193½ (e)	2,730,000 sh.	None	54.13 (h)	28.43 (h)	3 (f)	None
Packard	37	37⅜	48½	9¼	45¼	31¾	48½	15	26,147,220	10	4.84	1.67	2.90 (f)	None
Paige	17¼	16⅛	46½	11	28½	13⅜	33	17⅝	676,474 sh.	None	3.04	2.14	1.80	1,000,000
Pierce-Arrow	30⅝	32	99	6⅛	43⅛	19	47¾	10⅞	328,750 sh.	None	2.26	nil	None	3,950,000
Studebaker	57	54¾	68⅝	30	61⅜	47	68⅝	41¼	1,875,000 sh.	None	8.34	6.81	5	None
Willy-Overland	29	28	34⅞	4½	34	18	34⅞	9⅛	12,635,250 sh.	None	4.03	nil	None	7,475,000

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EDITORIAL COMMENT

The Rubber Chemist

The present issue of THE RUBBER AGE will be delivered just in time to greet the chemists of the rubber industry assembled at a meeting which celebrates the Tenth anniversary of the founding of the Rubber Division of the American Chemical Society. Their officers have fittingly laid out a program touching on all aspects of crude rubber, the material which has formed the basis of their productive work. Commercial and non-technical subjects happily appear on their program along with topics more nearly like those usually considered.

A great deal is constantly said about the usefulness and unique properties of rubber. But before rubber serves in most places it has been completely transformed by the chemist. It may be truly said that the chemist has made rubber the universal servant that it is today. The number of places and ways in which it is used has multiplied many times in the last decade. During that same period the position of the chemist in the industry has been increasingly recognized and rewarded.

We say that rubber is yet in its infancy from the standpoint of service. No doubt another ten years will see it occupying places now unthought of. If it grows up as predicted, it will be the rubber chemist who has trained it in the way it should go. After all, the chemist is the father of the giant. It would be difficult to wish him greater success and accomplishment in the next decade than has marked his course in the ten years whose end he is celebrating today.

Payments in Rubber

After having been rather closely and persistently connected with the British war debts, at least in the minds of the American public, rubber now has an opportunity to connect with the French war debt also. In the case of Great Britain, the excess rubber bill imposed on the United States by the restriction act was supposed to so enrich the British treasury that the war obligations would be a pleasure instead of a burden to pay. In the case of France, America's rubber supply would cause the disappearance of the obligations in a different way.

Certain French legislators have proposed that a substantial part of the debt to this country be paid by turning over to the United States some 2,000,000 acres of rubber lands in French Indo-China. It is possible that the recent address on the subject by one of these legislators was in the nature of a trial balloon to see how such a project would be looked upon in the United States.

The chief question would seem to center not around America's need for rubber planting or the suitability of French Indo-China for such a development but around the purpose which the lands would serve in the hands of the American government. In what way the proceeds of such a "payment" would finally reach the American taxpayer has not been worked out. Certainly the American government is not going into the business of rubber growing. Whether many of the citizens of the country will try their hand at it remains to be seen. In any case, it is not certain that the lands could be disposed of at a profit, if at all.

The proposal of the French legislators in this connection, if practicable at all, presumes a centralization of the rubber industry in this country which does not exist. It is but little different from the fundamental requirement of the Stevenson Scheme that the price of rubber be supported up to a certain level. For such things to be practical, an American industry would have to achieve a degree of centralization which would be a object of official attack instead of cooperation.

Highway Transportation

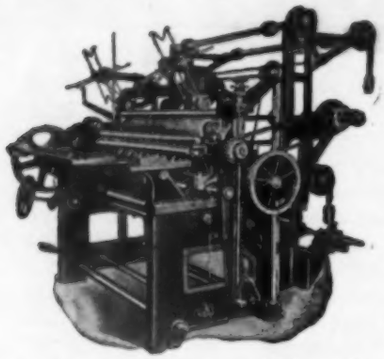
The growth of motor bus and motor truck transportation, with the attractive market for large pneumatic tires created thereby, has been closely watched by the tire industry. In fact, the success of such motor development is due in part to the foresight and energy of tire manufacturers in pioneering big tires to make busses and high speed trucks practicable.

The expansion in the use of such vehicles has now reached the stage where the inevitable governmental regulation cannot be much longer avoided. Congress will be called upon at its next session to work out intricate problems in connection with motor bus and motor truck control and the relation of the rapidly developing highway transportation to railroad transportation throughout the United States. Perhaps no work that Congress will undertake will merit closer attention on the part of tire manufacturers.

An effort was made at the last session of Congress to pass legislation providing for Interstate Commerce Commission control of highway transportation. Considerable opposition developed at hearings held by Senate and House Committees. The opposition was predicated largely upon the phraseology sought in the act. Among other things it provided that bus or truck companies setting up an interstate service must obtain from the Interstate Commerce Commission, or from the States a certificate of public necessity showing that the communities traversed were not at the time adequately served by existing facilities, rail, water or highway. Those opposing the bill contended that this would stifle competition and prevent the motor facilities from spreading naturally.

Congress struggled with the problem for several weeks and posponed action until there was further development in the field. Now the Interstate Commerce Commission has taken up the question by opening an investigation into all phases of the problem. Hearings were begun in Chicago on July 27 and will be held in some twenty cities before Congress reconvenes. The finding of the Commission will be embodied in a special report for consideration by the House and Senate Interstate Commerce committees. On the basis of it and of hearings subsequently to be held, a decision in Congress is likely to be reached.

CAMACHINE 6-C



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SHORT NEWS SECTION

CARBON BLACK SALES CHANNEL REARRANGED

Binney and Smith Co., 41 East 42nd St., New York, have announced that hereafter they will control the sale of carbon black produced at the Louisiana plant formerly operated by the Union Power Company of Shreveport.

The Interstate Natural Gas Company was recently formed in Louisiana to pipe gas from the Monroe field to Baton Rouge and intermediate points. Since their new line will be of large reserve capacity, additional territory was necessary in order to protect the future supply. The purchases made as a result of this circumstance included the gas acreage of the Frost-Johnson interests in Union Parish of which the carbon black plant of the Union Power Company was a part.

Under an arrangement between the Interstate Natural Gas Company and the Columbian Carbon Company, the latter will manage and operate the carbon black plant. Since Binney and Smith Co. are the sole selling representatives of the Columbian Carbon Company, the entire output of the plant will reach the trade through them.

Mitchella With Republic

Clyde B. Mitchella has been appointed chief engineer of the Republic Rubber Company at Youngstown, Ohio. After having been with the B. F. Goodrich Company for over 21 years, Mr. Mitchella was recently elected by the Akron Board of Education to the position of superintendent of plants and mechanical equipment of the Akron public schools. He resigned this position, however, to accept the new post at Youngstown.

HENDERSON FORSEES NO CHANGES IN RESTRICTION

That the British Government will continue restriction of the exports of rubber from its colonies for some time to come without any radical changes in the present working plans was the opinion expressed by F. R. Henderson, president of the New York Rubber Exchange, who recently returned from a study of the crude rubber market in London and Liverpool.

He also expressed himself as convinced that the British Government's action was designed solely with the idea of stabilizing the rubber market and guaranteeing a fair return on investment to producers. "It is a question of political expediency in the colonies rather than any economic movement directed against the United States", Mr. Henderson said. He also urged that Americans forget their ill feeling against Great Britain on this account.

Mr. Henderson said he still believed that while production in the rubber industry during the present year would be maintained at the same level or even greater than last year, the consumption of crude rubber would be about 30,000 tons less. This will be made possible through the use of reclaimed rubber and through improvements in manufacturing methods.

Names New Officers

The Lincoln Rubber Company of Barberton, Ohio, has been recently reorganized with William Boesche as president, George Merz, vice-president, and E. E. McNeely, secretary. The company manufactures rubber gloves exclusively.

WISHNICK-TUMPEER, INC. OPENS NEW LABORATORY

A new and complete rubber laboratory has been opened by Wishnick-Tumpeer, Inc. It will be under the supervision of John M. Dawson, A.I.C., who was formerly with the Dunlop Tire and Rubber Corporation.

Wishnick-Tumpeer, Inc., state that they have added the laboratory to their organization to put them in a position to give the trade technical service in conjunction with the sale of their pigments and also to enable them to check closer on the products they are recommending to the trade.

DeMattia Officers and Employees Enjoy Annual Outing

The annual outing of the officers and employees of DeMattia Brothers, Inc., tire building equipment manufacturers of Garfield, N. J., was held this year at Klein's Grove, Singac, and all records for having a good time were said to have been broken. The program included a ball game and other athletic events and contests. That music was not lacking is shown by the instruments appearing in the photograph. The officials of the company were presented with gifts by the employees. Peter DeMattia received a mounted bear's head, Barthold DeMattia was given a travelling bag, and a gold fountain pen and pencil were presented to Morris A. Pearson.

New Lancaster Officials

At a recent meeting of the board of directors of the Lancaster Tire and Rubber Company, Lancaster, Ohio, E. E. Lerch was elected president and general manager, C. S. Hutchinson, vice president, Fred Miller, chairman of the board of directors, J. Laurence Porter, secretary, and C. C. McCandlish, treasurer.

CATALPO!

Exchange Seats Sold

The membership of Clifford C. Johnston in the Rubber Exchange of New York was recently sold to Q. J. M. Keulemans of Henderson, Helm & Co. for $5,500. The membership of Carrol V. Geran was sold to Charles H. Moore for $5,800. The last previous sale was at $5,500.

Globe Equipment Sold

All machinery and equipment of the Globe Rubber Tire Manufacturing Company, Trenton, has been sold at public auction for approximately $10,000. The plant was recently sold with all equip- by a Trenton bank.

GOODYEAR COTTON CO. OFFERING NEW STOCK

The Goodyear Cotton Company of Canada, Ltd., a subsidiary of the Goodyear Tire & Rubber Company of Canada, Ltd., is increasing its capital through an offering of 7 per cent cumulative preferred stock at 99 and accrued interest. This new issue, amounting to $475,000, is in addition to a previous sale of $300,000 six per cent first mortgage bonds which was made a few months ago.

The Goodyear Cotton Company was incorporated in March, 1926, to take over a cotton mill at St. Hyacinthe, Quebec. New machinery is being installed which will bring the equipment of the mill up to about 20,000 spindles. When these improvements are completed the tire factory will be getting more than half of its fabric requirements from its own mill.

Falls Has Record Sales

Officials of the Falls Rubber Company of Cuyahoga Falls, Ohio, report that sales during the current year have been heavier than at any time during the eighteen years the company has been in existence. Sales for the first six months, they say, have been in excess of $2,000,000, an increase of 33 1/3 per cent over the same period last year. July sales were the heaviest in the history of the company. The total 1926 sales are expected to exceed $4,000,000.

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EXPORT TRADE WELL MAINTAINED IN JULY

Rubber Footwear Makes New Record for Year While Foreign Shipments of Tires and Tubes Were Also Larger—Scrap and Reclaimed Rubber Exports Less.

The export trade in manufactured rubber goods was maintained at a fairly high level during July. The volume of the export trade in rubber footwear was higher than in any of the preceding months of the year. The July shipments of tires and tubes were somewhat heavier than in June and a similar expansion was noted in the sundries and toys, and the rubber hose exports.

The July exports of casings and tubes were valued at $2,581,959 as compared to $2,426,266 in June. The pneumatic casing exports valued at $2,001,266 were considerably in excess of the $1,874,807 worth shipped in June. A similar increase occurred in the shipments of tubes but exports of solid tires declined from $263,470 in June to $243,278 last month.

The export trade in canvas rubber shoes with a total value of $443,492 was the heaviest for any month of this year. Argentina took 159,641 pairs of these shoes valued at $96,137. Other important markets were the Philippine Islands, Cuba, Mexico and British India. Exports of rubber shoes likewise reached the high record of the year with total exports at $159,394. Germany was the chief market for these products, taking 29,172 pairs valued at $31,974. Large shipments also went to the United Kingdom, Canada, Italy, Argentina and China. Rubber boots exports were valued at $201,354 and soles and heels at $113,443.

Exports of mechanical rubber goods held up well with shipments of $193,757 worth of rubber belting, $250,736 of rubber hose and $100,975 worth of rubber packing. British South Africa, Canada, Australia, the United Kingdom and Mexico were the leading purchasers of this class of goods. The shipments of rubber friction tape were heavy at $38,972, the highest for any month of this year. Exports of rubber bands and erasers were likewise large at $51,198.

The shipments of scrap and reclaimed rubber fell off considerably, the former being valued at $82,733 and the latter at $142,495 as compared with $124,989 and $151,438 respectively in the preceding month.

Employees Form Association

The Employees Association of the Seamless Rubber Company has been formed at New Haven, Conn. Among the incorporators are Norman E. Harris, A. M. Case and J. T. Gibbons.

CATALPO!

SULLIVAN INCORPORATES UNDER NAME VANSUL, INC.

A new concern to handle rubber chemicals and compounding materials was recently incorporated in New York under the name Vansul, Inc. Theodore G. Sullivan, well-known to the rubber industry is president and Frances Sullivan is vice-

Theodore G. Sullivan, Jr.

president and secretary. Offices have been opened at 90 West St., New York City, telephone Rector 9192.

Among the various materials which will be handled are accelerators, barytes, asbestine, carbon black, magnesia carbonate, sulphur, clay, chrome green oxide, palm oil, whiting litharge, lithopone, calcined magnesia, red oxide and zinc oxide.

Theodore G. Sullivan, who until recently was connected with Wishnick-Tumpeer, Inc. as technical manager of the rubber division, and had formerly been with the Clapp Products Co., a subsidiary of E. H. Clapp Rubber Co., Boston, Mass., as technical sales engineer on Toron. Mr. Sullivan is a graduate of Rutgers University, where he studied chemistry and later took a post graduate course in chemical engineering at Massachusetts Institute of Technology at Cambridge.

Zech Opens Akron Office

Frank Zech, experienced rubber broker, has opened an office in Akron at 415 Ohio Building to conduct a general rubber brokerage business. The firm will be known as Frank Zech & Co. Mr. Zech has been active in crude rubber sales for about fifteen years.

Generals Beat Champions

The reputation of the General Tire and Rubber Company of Akron for putting out quality spread from the motor roads to the baseball diamond on August 24 when the General Tires team beat the world champion Pittsburg Pirates in a no-hit, no-run game at Akron. The Generals won, 6—0. It was an exhibition game for the big leaguers but Akron fans are saying that the General outfit put up the finest exhibition of baseball ever seen in the city.

Charlie Ketchum, star pitcher of the tire team, turned in the game as his third straight shut-out victory. C. E. Darling, manager of the team and well-known around the General factory, contributed to the triumph in his team's biggest game by coming through with several brilliant plays.

JULY AUTO PRODUCTION LOWEST SINCE JANUARY

The July production of motor vehicles in the United States, as reported to the Department of Commerce, was 355,466, of which 315,861 were passenger cars and 39,585 were trucks. This represents the lowest output in the motor industry of any month since January of this year.

As compared with the June production of 383,652, the output during July shows a falling off of 28,206 motor vehicles, and a reduction of 33,563 from the 389,009 passenger cars and trucks produced in July, 1925. However, the total number of vehicles manufactured during the first seven months of this year was 2,386,251 as against 2,215,115 in the same period of 1925.

The July report is based on figures received from 172 manufacturers, 65 making passenger cars and 124 making trucks, and 17 making both passenger cars and trucks.

Figures showing the July output of Canadian factories, which are supplied by the Canadian Bureau of Statistics, are not yet available. Automobile production in Canadian factories, however, has been running steadily ahead of last year, the total number of cars and trucks produced in the first six months of 1926 being 124,878 as compared with 90,814 in the same period last year. If this rate is maintained for the balance of the year, the 1926 output will exceed all previous records by a wide margin.

Osterloh Leaves Goodyear

A. F. Osterloh has resigned as vice president and general manager of the Goodyear Tire and Rubber Company of California and the Goodyear Textile Mills. He will be succeeded by H. E. Blythe who will also continue his duties as general superintendent of the Los Angeles plant.

Starting with the Goodyear Tire and Rubber Company at Akron twenty-four years ago as a salesman, Mr. Osterloh steadily advanced until he became secretary of the company. When the California subsidiaries were organized in 1919 he was made their executive head.

Mr. Osterloh will be president of the Industrial Foundation of America, an enterprise which has been recently organized by a group of Los Angeles financiers to take over worthy manufacturing and merchandising concerns and make them into dividend paying corporations.

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CLASSIFIED ADVERTISING

10 cents a word, minimum charge $2.00, payable in advance.
Address replies to Box Numbers, care THE RUBBER AGE, 225 Fourth Ave., New York.

HELP WANTED

Important pigment manufacturer has opening in Eastern territory for technical salesman with general knowledge of rubber compounding. Reply fully, in confidence.
Box 436—THE RUBBER AGE

Long experienced operators for rubber washing plant, within twenty miles of New York, permanent positions and opportunities for advancement for right men. Good pay, working under ideal conditions. Write fully stating experience and salary desired.
Box 435 THE RUBBER AGE.

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FOR SALE OR LEASE

TWO STORY RUBBER PLANT FACTORY, 90 x 125, with foundations for additional story and land to double the size of present plant. In suburbs of Boston. Suitable for sheet, punched, or moulded goods. Now equipped for automobile tires and tubes. Immediate possession on satisfactory cash and terms basis. Brokers protected. Details on request. Address Box 438, THE RUBBER AGE, 225 Fourth Ave., New York City.

FOR SALE

70 H.P., 225/450 R.P.M., 240 volt, D.C., General Electric, CLC.-120, form B, variable speed motor, with control panel. V. M. Nussbaum & Co., Fort Wayne, Ind.

FOR SALE TO SETTLE ESTATE—The contents of the Chemical Laboratory of Lothar E Weber, PhD, well known as an expert in the chemistry of rubber, 729 Boylston St., Boston, Mass. The stock includes latest types of rubber testing machine and ageing oven, also a chemical library. Persons interested should communicate promptly with the laboratory—Tel. Kenmore 6277 or A. BARR COMSTOCK, one of the executors, 84 State St., Boston. Telephone, Main 5287.

Large and small quantities of
OLD MOTOR CAR TIRES
Nederlandsche Autobanden Centrale, 121,
Wijnhaven, Rotterdam, Holland.

Record Gasoline Demand

Domestic demand for gasoline in the United States passed the billion gallon mark for the first time in July. According to figures issued by the Bureau of Mines, the total domestic demand for that month amounted to 1,014,804,000 gallons. The demand in June was for 969,051,000 gallons.

July production of gasoline also set a new high figure for total. Nevertheless while more was being produced and less was being exported the steadily mounting demand brought about a material reduction in stocks. The supply on hand at the end of July would cover demand for only 1.6 months at the rate at which it was taken in July. The monthly consumption of gasoline since 1918 is shown in the statistical section in the closing pages of this issue.

N. Y. CHEMISTS ATTEND SCHIDROWITZ LUNCHEON

About twenty chemists in and around New York attended a luncheon tendered to Dr. Philip Schidrowitz, the well-known British consulting rubber chemist, at the Yale Club in New York on Monday, August 30. These chemists, representing a number of chemical concerns and rubber plants in the vicinity, took this means to greet Dr. Schidrowitz on his arrival in this country. After a short introduction by W. B. Wiegand of Binney & Smith Co., the guest of honor spoke briefly on the great respect with which American rubber technologists were held in England and hoped that more chemists from this side would make trips abroad to become acquainted with foreign methods. Other speakers were D. F. Cranor, C. R. Boggs and Dr. Russell of Norwalk Tire & Rubber Co.

Footwear Sales Easy

Manufacturers of rubber footwear report a seasonal lull in sales pending the offering of new Spring lines early in September. Orders for Fall delivery have been satisfactory, but dealers' stocks are believed to be light and active reordering is anticipated with the first approach of winter weather. Fall prices are expected to remain steady, and no reduction is looked for before December or January. However, prices may be somewhat lower in view of lower canvas and rubber prices.

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WEEKLY MARKET REVIEW ON REQUEST

Raincoat Makers Strike

Fifty raincoat manufacturing shops of Boston are closed as a result of a strike ordered by the local branch of the Waterproof Garment Workers' Union. The workers are striking for a five-day week of forty-two hours instead of the present six-day, forty-four hour week, as well as an adjustment of wage differences. About 1,000 employees, including 600 women, are affected by the order.

Hupp Sales Increase 50%

The retail sales of Hupmobiles in the United States and Canada for the nine months ended July 31 were nearly 53 per cent greater than in the corresponding period a year ago, according to O. C. Hutchinson, sales manager of the Hupp Motor Car Corporation. Factory shipments in the same period increased from 27,134 to 39,697, a gain of nearly 46 per cent. Shipments for the first seven months of 1926 were only 6,000 less than those of the entire year of 1925.

John E. Thropp

On August 12th, John E. Thropp, a well-known Trenton manufacturer of rubber machinery, died at his home at Penns Manor, Pennsylvania. He was sixty-one years old. In failing health during the past five years, Mr. Thropp had relinquished three years ago all active participation in business, leaving the responsibility of factory operations with his sons.

John E. Thropp, the second of the name, was the son of the founder of the business, the concern having been established in Trenton on a small scale in 1878, and gradually developing into the present large and prosperous plant. After the death of the father the business was maintained by the four sons under the name of the John E. Thropp's Sons Co., the name being changed in February, 1925, to John E. Thropp's Sons, Inc.

John E. Thropp, 2nd, together with his brother Peter D. Thropp and Albert deLaski, both of whom are deceased, designed and patented new types of tire making machinery that is believed to have revolutionized the industry. The deLaski & Thropp Company is the present holding company for these devices.

Finding however that his health did not permit his carrying out his business plans, Mr. Thropp built an attractive home on the banks of the Delaware River at Penns Manor, and found much pleasure in residing there. He is survived by two sons, John E. Thropp, 3rd, and James W. Thropp, a daughter and two brothers.

CATALPO!

INTEREST CREATED BY FLEXITE DEVELOPMENT

The U. S. Rubber Reclaiming Co., New York, announced recently that it had developed a new stock which has been termed "Flexite". This stock is the result of a long period of experimentation at the plant in Buffalo, and is said to have many unique properties which can be used to advantage in almost any compound. According to the announcement, Flexite has the properties of an uncured compound on the mill, will stand all the heat required on calender and mill without sticking, and tubes freely.

Tests made with a compound containing Flexite proved that only with crude rubber selling at under 18 cents could similar results be obtained. Flexite contains ingredients which on account of their prices, could not be afforded in the average mix. It has a "rubberness" which does not resemble the usual reclaim and will take its full quota of sulphur without blooming. It is also stated that Flexite produces a compound with high resistance to abrasion.

Schrader Plant at Akron

With the completion of the new tire valve assembling plant of Schrader's Son, Inc. now under construction at Akron, officials of the company say that approximately 30 per cent of all the tire valves produced in the United States will be assembled at the Akron plant. The company plans to assemble all the valves sold to Akron rubber companies at its new plant, but the actual manufacturing of the parts will be conducted as heretofore at the Brooklyn factories. The new plant, which will cost in excess of $300,000, is expected to be ready for occupancy in the near future.

Cyanamid Fiscal Report

The American Cyanamid Company reports a net profit of $1,652,140 for the twelve months ended June 30, 1926. This is equivalent, after deducting preferred dividends, to $4.09 a share on the 321,670 shares of combined Class A and B stock. Subsidiaries of the company report a net loss for the period of $163,854, as against a net loss of $58,071 in the previous fiscal year.

Firestone Out Of Mexico

The Firestone Rubber Plantations Company has given up its effort to establish a rubber plantation in Mexico, Harvey Firestone, Jr., announced just prior to his recent departure for Liberia. Conditions were found to be unsuited, Firestone said.

The effort in Mexico was along the line of clearing and extending a Castilloa and Hevea plantation which was abandoned several years ago. Labor troubles and high costs were obstacles to the success of the plan.

Samuel Wierman, an experienced Eastern rubber planter who has been in the employ of Firestone for three years, was in charge of the operations. Mr. Wierman has recently visited New York and is understood to have severed his connection with the Akron company after closing out the Mexican development.

Reclaiming Plant Burns

Fire has completely destroyed the rubber reclaiming plant of the Continental Rubber Works at Hanover, Germany's largest rubber manufacturer.

Talks on Heel Manufacture

Clifford Oakley of the Essex Rubber Company, Trenton, gave a talk on rubber heel and sole manufacturing before the Trenton Rotary Club at one of their meetings in August. He stated that more than 400 people are now employed in such work in Trenton alone.

Walter H. Snyder

Walter H. Snyder of the Export Department of the Firestone Tire & Rubber Company died of heart failure at the home of his father-in-law in Ashland, Ohio, on August 5. He was 38 years of age. Mr. Synder had been with the Firestone company since 1916. His wife and small daughter survive him.

CATALPO!

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NEW YORK

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ULTRA ACCELERATOR

The chief advantages to be gained from the use of MONEX are:

1. Ability to vulcanize efficiently at reduced temperatures.
2. Low accelerator cost.
3. Ease of handling.
4. As a booster of the cure of tires in which the slower accelerators are used.
5. Effective in high reclaim stocks as well as in stocks without reclaim.

ACCELERATING STRENGTH DATA

Rubber	100
Zinc Oxide	5
Sulphur	3
Monex	0.1

Cure in strip mold	60′/5 lbs.	30′/10 lbs.	45′/10 lbs.	60′/10 lbs.
Tensile strength	3955	3510	4235	4305
Elongation	770	820	810	830

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GUAYULE RUBBER

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GENERAL MACHINE WORK

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The London Letter

The GENTLEMAN FROM MINCING LANE will report current opinion in London's famous rubber market in every issue of THE RUBBER AGE

The Gentleman Says "Don't Be Too Pessimistic About Britain".

LONDON, August 31, 1926.

DOUBTLESS YOU and your readers have for years heard about coal being the key industry of Great Britain. Therefore, it is only natural to assume that with a complete stoppage of coal mining for three-and-a-half months, conditions in the "tight little isle" are chaotic, and that the future looks hopeless. Such is not the case. It is true that the coal stoppage has put the clock back and that the slow, steady improvement of post-war years has been retarded but the situation is by no means hopeless. Incidentally, I speak of the coal "stoppage". It is neither a strike nor a lockout; they quit "by mutual consent". Orders which should have been placed in British mines and factories have gone elsewhere, but still the actual movement of goods overseas, which is an index of prime importance, has not been as adversely affected as one would expect.

It is difficult to gauge accurately the effects on British industry and trade this Summer because in many staple lines, orders placed in June and July are for delivery in September and October, and later, so that the lack of orders this summer will not show in actual shipments until the Fall. But then, again, there is the imponderable factor of orders held up by purchasers to be placed after the coal production starts again. The figures that are available are those for unemployment and overseas trade. Taking the export and import figures for May, June and July 1924-25-26 and roughly reducing the figures to 1926 price levels, it is rather surprising to find that, in the main, imports and exports this summer about equal those for the two previous summers, always excepting, of course, coal, and those industries in which coal is such a very important factor.

RUBBER GOODS seem to have paid but little attention to the industrial upheaval in the country. During the past three months rubber manufactures were imported into the United Kingdom to the extent of about 1½ million pounds and exported to a total of about 2 millions. These figures indicate that the actual volume this year exceeded slightly that for last year and was 50% higher than for the summer of 1924.

The data furnished by the Ministry of Labour as to the unemployment in the rubber industry shows that of the 61,000 persons listed—and these include almost all of the workers in the British rubber industries—7.6% were wholly unemployed on July 26th as compared with 6.6% on April 26th just before the coal difficulties started. However, an additional 8% were temporarily out of work, probably due to the coal difficulties, so that unemployment at the end of July amounted to 15.6% in rubber mills as compared with 7.5% in April when only .09% were temporarily out of work.

I think it would be interesting to you to know the total figures for all industries for these same dates. Of about 12 million workers, 9% were totally unemployed in July, 1926, and 5.6% were temporarily unemployed, making a total of those out of work of 14.6%. This compares with the following figures for April: Wholly unemployed 1.7%, temporarily unemployed 1.5%, total of all those out of work 9.2%, which means very nearly a 50% increase in those out of work this summer as compared with the spring. Incidentally, too, these figures do not include a million miners who are involved in the coal dispute. When you consider that in pre-war times Britain had a normal—if one can call unemployment normal—unemployment of about 4% to 5%, it will be seen that unemployment was not very bad in the rubber industries of the country prior to the coal stoppage, and the chief difficulty both in the rubber and other industries is in the temporary stoppages caused by temporary lack of coal and difficulties in the movement of raw materials.

ALSO, THESE figures are interesting as they would indicate that the steady movement of rubber goods overseas must have been quite largely from stock, unless the domestic demand was at an unusually low ebb. There is no sign that tyre users in this country have been particularly backward about purchasing. The Dunlop Company has done extraordinarily well, according to all reports. Of course, mechanical rubber goods must have been in slow demand.

Thus it appears that the damage to British trade and industry is not irreparable by any means. July and August are normally a holiday time, and the Englishman and his family are keen holiday makers, and can have an exceedingly good time with very little. As an American visiting London recently put it, "Why, they can enjoy themselves perfectly with simply nothing more than a walk in the country!" The great essential is that the coal dispute shall be solved now so as not to disorganize the winter's business.

Turning to the raw rubber situation for a moment, rubber prices have held around 1/8d. and London stocks have continued to increase until they are over 30,000 tons. Reports from Malaya indicate that the labour position on the Estates has improved marvellously thus far this year and recruiting in South India has reached record proportions. Nevertheless, observers are inclined to believe that the 100% standard production will not actually be moved. The reasons for this are quite evident, and have been stressed before. Prominent among them are the facts that assessment is on the liberal side and tapping methods are more conservative.

Yours Faithfully,

THE GENTLEMAN FROM MINCING LANE.

The amount of plantation rubber moving to the United States from foreign ports for the three weeks ending August 28th was 22,630 long tons, according to figures compiled by the Rubber Division of the Department of Commerce from reports of invoices viséed by the consuls at the seven leading rubber exporting ports of the world. Of this total 14,837 long tons were invoiced from British Malaya, 2,455 from Ceylon, 3,943 from the Dutch East Indies and 1,395 long tons from London. The shipments approved during the week ending August 14th totaled 7,965 long tons, August 21, 6,938 and August 28, 7,727 long tons.

These figures represent about 97 per cent of the plantation rubber shipped to the United States. Because of the fact that much of this rubber will not reach this country before September or early October, these exports cannot be tied up with the August arrivals. When the average time required for these shipments to reach the United States is determined however, it will be possible to predict very closely the imports into the United States during a given month.

Late Figures On CRUDE RUBBER

The July imports of crude rubber into the United States, according to the final figures of the Rubber Division, were 35,820 long tons at a total value of $33,061,470, an average price of 41.2 cents per pound. As consumption during the month was estimated at 27,577 tons, there must necessarily have been a considerable addition to stocks.

According to unofficial figures made up from ship's manifests, there were 27,940 tons of rubber landed at New York during August. On the basis of these figures, arrivals at all ports during the month would fall a little below 30,000 tons. The average import price is not expected to show an appreciable change from that set in July.

August consumption of rubber in the United States was considerably higher than in July. As noted above, 27,577 tons were used in that month. In August it is believed that consumption was in the neighborhood of 33,000 tons and possibly higher in view of the record number of tires turned out. An Akron dispatch says that all tire production records in that city were broken, and that Goodyear alone produced 1,060,000 tires and 1,950,000 inner tubes during the month. Such a figure would mean an average production of 40,769 tires for each of the 26 working days, Saturdays included.

The average spot price of ribbed smoked sheets in London during August was 19.460 pence. With the first month of the new restriction quarter passing with an average so far below the required 21 pence, it is apparent that only a material strengthening of the market can keep rubber exports from Malaya and Ceylon from being cut back to 80 per cent on November 1.

London rubber stocks continued to increase. During the week ended August 28 the increase was only 481 tons but it brought the London total up to 30,159 tons. The London market has been steady at around 19¾ pence.

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(of London)

THE MONTHLY PUBLICATION
for
ALL BRANCHES OF THE RUBBER INDUSTRY

Circulates among Raw Rubber Producers, Importers, Manufacturers & Dealers.

Published on
1st of each month

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Single copies 1/3d post free

OFFICES:—43 ESSEX STREET, STRAND, LONDON, W.C.2.

Crude Rubber Gains Only Slightly

While Crude Rubber Has Shown Weakness, Scrap Has Held its Own and Reclaimed is Still Firm

CRUDE RUBBER

NEW YORK, Sept. 3, 1926—A record tire production in the latter half of August had but little effect on crude rubber prices which continued weak. Although an unprecedented number of casings and tubes were turned out, the ample supply of crude rubber on hand and a liberal use of reclaimed kept any unusual buying demand from developing. Pressure on the part of selling interests was also lacking with the result that prices did not slump so much as the weakness of the demand would have warranted.

During the first half of August ribbed smoked sheet prices ranged from 37 to 39 cents, being around 38 cents most of the time. The increase in the last half amounted roughly to one cent. For several days the market hovered around 39 cents; on the 31st buyers closed at 40 cents but the undertone of the market was weak. The average price for the month was 38½ cents. This was the lowest monthly average since February, 1925.

The little additional strength appearing in the market at the end of August was taken to be due to late covering by shorts. September opened with little buying demand and the market was barely steady at 40¼. The nearness of the Labor Day holiday was thought to contribute to the quietness, and some slight settling of prices was expected by the 4th.

Cables from the East indicated that any drastic change in restriction regulations was unlikely. Readjustment of standard production was expected to be effected through working on individual cases rather than by any sweeping change. This news helped the bearish tone of the market.

Unused export coupons to the amount of about 27,500 tons remained in the hands of planters in Malaya and Ceylon in August. There was increasing confidence that such export permits would not be arbitrarily cancelled by the British Colonial Office. The improved labor position and the prospect of a better tapping season made it appear that planters would be more nearly able to reach their standard productions in the last half of the year.

These factors offset a statistical position in the United States which should have meant a firmer market. United States rubber arrivals were lower in August, less than 28,000 tons being landed at New York. At the same time consumption was increased in response to the record activity of the tire plants.

Trading on the Rubber Exchange was also less animated during the last half of August. The largest day's business reached only 368 contracts of 2½ tons each. The report of Exchange prices and activities appearing on this page shows that only 2,107 lots, equivalent to 4,268 tons, were traded in on the 14 days shown.

SEPT. 2 OPEN MARKET PRICES

Plantations—			
Ribbed Smoked Sheets			
Spot	40⅛	@	—
Sept.	.40½	@	—
October	.40½	@	—
Oct./Dec.	.40¾	@	—
Jan./Mar.	.41½	@	—
First Latex, crepe spot	.40⅝	@	—
Amber Crepe, No. 2, spot	.40¼	@	—
" " No. 3	.39¼	@	—
" " No. 4	.38	@	—
Brown Crepe, Rolled	.36¾	@	—
" " Clean, thin	.38⅝	@	—
" " Specky	.33¼	@	—
Pontianac—			
Bangermassin	Nominal		
Palembang	Nominal		
Prime Pressed	Nominal		
Sarawak	Nominal		
Paras—			
Up-river Fine	.39¼	@	—
" Medium	.37	@	—
" Coarse	.26	@	—
Acre Bolivian, fine	.39½	@	—
Tapajos, fine	.33½	@	—
Islands, fine	.33½	@	—
Cut Beni Bolivian, fine	.40	@	—
Caucho Ball—			
Upper, shipment	.26	@	—
Centrals—			
Corinto; scrap	.21	@	—
Esmeraldo, sausage	.21	@	—
Guayule, w and d	.32	@	—
Africans—			
Benguela, No. 2	Nominal		
Congo, upper, black	Nominal		
" " red	Nominal		
Kassai, Prime Red	Nominal		
Balata—			
Block, Columbia	.60	@	—
" Cuidad	.58	@	—
Surinam, sheet	.73	@	—
Gutta Percha—			
Siak	.32	@	.33
Red Macassar	3.00	@	3.50
Chicle—			
Mexican, Yucatan	.65	@	—

LONDON MARKET

Standard Ribbed Smoked Sheets—*Buyers*	
Spot	19¾d
September	19¾
October	20
Oct./Dec.	20⅛
Jan./March	20⅝

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—*Sellers*	
August	18¾d
Jan./Mar.	19⅝

In the twelve preceding trading days 2,624 lots were sold.

Rubber Exchange contracts for delivery during the first six months of 1927 have been selling at stronger prices, presumably on the basis that a 20% cut in exports from British Colonies will begin on November 1.

RECLAIMED RUBBER

NEW YORK, Sept. 3, 1926—Reclaimers report a continuance of the excellent conditions which have prevailed for some time past. The increased production schedules of tire plants has aided in keeping reclaiming plants operating at capacity and no let-up is in sight. Demand from manufacturers of mechanical goods continues in good force and reclaimers expect no let-up for the balance of this year. Quotations follow:

High Tensile Black				
Super-Reclaim No. 1	lb.	.20	@	.22
" " No. 9	lb.	.17	@	.18
Shoe				
Unwashed	lb.	.08¾	@	.09
Washed	lb.	.11¾	@	.12¼
Tube				
No. 1 (Floating)	lb.	.18	@	.21
No. 2 (Compounded)	lb.	.16	@	.17
Tires				
Black, unwashed	lb.	.09¼	@	.10
Black, washed	lb.	.11	@	.11¼
Black selected tires	lb.	.10¾	@	.11
Dark Gray	lb.	.12	@	.14
Light Gray	lb.	.15	@	.16
White	lb.	.17½	@	.18½
Truck, Heavy Gravity	lb.	.05	@	.05½
" Light Gravity	lb.	.09¾	@	.10¼
Miscellaneous				
Mechanical Blends	lb.	.08	@	.09
Red, High Grade	lb.	.17½	@	.18½

SCRAP RUBBER

NEW YORK, Sept. 3, 1926—Increased interest by reclaimers has livened up the scrap market but weaker crude prices have caused a lowering in prices of a number of scrap grades within the past ten days. Stocks are fairly ample but not in excess by any means. Prices follow:

[Prices to Consumer]

Auto tire peelings	ton	38.00	@40.00
Standard White auto	ton	57.00	@58.00
Mixed auto	ton	25.00	@27.00
Bicycle tires	ton	22.00	@24.00
Clean solid truck tires	ton	40.00	@42.00
Boots and shoes		.02	@ .02⅛
Arctics, untrimmed		.00⅞	@ .01
Arctics, trimmed		.01	@ .01⅛
Inner tubes, No. 1		.09⅛	@ .09½
Inner tubes, No. 2, compounded		.07¼	@ .07½
Air Brake Hose	ton	28.00	@32.00
Rubber hose	ton	23.00	@25.00

Closing Prices on Rubber Exchange of New York, Inc.

AUGUST 18 TO SEPTEMBER 2

	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Sales*
Aug. 18	39.00	39.40	39.80	40.40	40.70	41.30	41.50	41.70	42.10	42.80	43.10	43.30	274
19	39.70	39.50	40.00	40.50	40.90	41.40	41.60	41.80	42.10	42.80	43.00	43.20	368
20	39.90	39.80	40.20	40.50	40.90	41.10	41.50	41.90	42.20	42.50	42.90	43.10	201
21	39.90	39.80	40.20	40.60	41.00	41.30	41.60	41.90	42.30	42.60	43.00	43.20	9
23	39.90	39.80	40.10	40.50	40.90	41.20	41.40	41.90	42.10	42.40	42.60	42.90	51
24	40.00	39.80	40.10	40.50	40.80	41.00	41.30	41.80	42.00	42.30	42.50	42.80	163
25	39.80	39.60	39.90	40.10	40.60	40.70	41.00	41.50	41.80	42.10	42.30	42.30	225
26	39.60	39.60	39.90	40.00	40.50	40.70	40.90	41.30	41.60	41.90	42.10	42.20	41
27	—	39.80	40.20	40.60	40.80	41.20	41.50	41.80	42.10	42.30	42.50	42.60	112
28	—	40.00	40.40	40.90	41.30	41.60	41.70	42.10	42.30	42.50	42.70	42.80	31
30	—	41.10	41.20	41.50	41.90	42.00	42.20	42.30	42.50	42.70	42.90	43.00	240
31	—	40.60	40.50	41.00	41.30	41.20	41.30	41.50	41.70	41.90	42.10	42.20	31
Sept. 1	—	40.30	40.40	40.80	41.20	41.50	41.60	41.70	41.90	42.00	42.20	42.40	223
2	—	40.00	40.10	40.50	40.50	41.00	41.30	41.60	42.00	42.20	42.30	42.40	138

(*) In lots of 2½ tons each; totals are for old and new contracts. (Prices are for new contracts)

Chemical Prices Remain Firm

Increased Activity of Rubber Factories Has Resulted in Greater Demands from Producers

NEW YORK, Sept. 3, 1926—With rubber factories working at capacity according to all reports, the demand for the staple lines of rubber chemicals and compounding materials has increased to the point where some manufacturers are drawing on their orders scheduled for later delivery. This spurt, especially on the part of tire factories has, however, not caught chemical producers unawares for they have been expecting a more rapid movement of stocks for some time, with the result that they have been able to take care of the demands of the industry without much delay. Accelerators, colors, blacks, anti-oxidants, whitings, zinc oxides have all been active. Prices are practically unchanged since our last report. Latest quotations follow:

ACCELERATORS

Organic

A-7	lb.	.70 @	—
A-40	lb.	.70 @	—
A-19	lb.	.75 @	—
A-11	lb.	.75 @	—
Aledhyde ammonia, crystals	lb.	.82 @	—
Aniline oil, drums	lb.	.17 @	.17½
"BB"	lb.	1.05 @	1.07
Captax	lb.	1.20 @	1.50
Crylene	lb.	.70 @	—
paste	lb.	.50 @	—
Di-Ortho-Tolylguanidine	lb.	1.08 @	—
Diphenylguanidine	lb.	.85 @	.88
Ethylidene aniline	lb.	.60 @	.65
Excellerex	lb.	.35 @	.40
Formaldehyde-Aniline	lb.	.40 @	.42
Grasselerator 102	lb.	.80 @	.82
Grasselerator 552	lb.	4.80 @	5.00
Grasselerator 808	lb.	1.25 @	1.50
Heptene	lb.	.55 @	—
Hexamethylene-tetramine	lb.	.80 @	.82½
Monex	lb.	3.25 @	—
Paraphenylenediamine	lb.	1.25 @	1.30
Piperidine-Piperidyldithio-Carbamate	lb.	4.80 @	5.00
R & H 50	lb.	— @	.65
Super-Sulphur No. 1	lb.	.50 @	—
Super-Sulphur No. 2	lb.	.18 @	.25
Tensilac, No. 41	lb.	.65 @	—
Thiocarbanilide, kegs	lb.	.22 @	.26
Trimene	lb.	.75 @	—
base	lb.	1.20 @	1.35
Triphenylguanidine	lb.	.70 @	.73
Tuads	lb.	3.25 @	3.50
Vulcone	lb.	.75 @	.79
Z. 88	lb.	.75 @	1.00
Zimate	lb.	4.00 @	—

Inorganic

Lead, sublimed blue	lb	.10 @	.10½
Lead, white	lb.	.10¾ @	—
Litharge, domestic	lb.	.11½ @	—
Magnesia, calcined,			
light	lb.	.06½ @	—
heavy	lb.	.04½ @	—

COLORS

Blacks (See Compounding Materials)

Blues

Prussian	lb.	.32 @	.35
Ultramarine	lb.	.08 @	.35

Browns

Siena, Italian	lb.	.04 @	.08
Umber, Turkey	lb.	.04 @	.06

Greens

Chrome, light	lb.	.28 @	.31
medium	lb.	.29 @	.32
dark	lb.	.31 @	.33
Chromium Oxide, bbl.	lb.	.31 @	.35

Reds

Antimony			
crimson, 15/17	lb.	.27 @	—
sulphur free	lb.	.48 @	.50
vermillion 15/17	lb.	.37½ @	—
golden 15/17 F.S.	lb.	.20 @	—
Indian English	lb.	.11 @	.13
Oximony	lb.	.13¼ @	—
Para toner	lb.	.80 @	.90
Red oxide, reduced	lb.	.11 @	—
pure	lb.	.12 @	.14
Blue Ridge	lb.	.12 @	.14
Toluidine toner	lb.	1.80 @	2.10
Venetian red	lb.	.03½ @	.05
Vermillion, quicksilver,			
English	lb.	1.45 @	1.50

Whites

Albalith	lb.	.05¾ @	.06¼
Lithopone, Akcolith	lb.	.05¾ @	.06
Lithopone, Azolith	lb.	.05¾ @	.06¼
Zinc Oxide—American Process			
XX red	lb.	.07½ @	.07¾
Kadox,			
black label, kegs	lb.	.10⅞ @	.11⅛
blue " " "		.09⅞ @	.10⅛
red " " "		.08⅞ @	.09⅛
American Azo:			
ZZZ (lead free)	lb.	.07¼ @	.07¾
ZZ (under 5% leaded)	lb.	.06⅞ @	.07⅜
Zinc Oxide—French Process			
White seal	lb.	.12⅜ @	—
Green seal	lb.	.11⅝ @	—
Red seal	lb.	.10⅞ @	—

Yellows

Chrome	lb.	.17½ @	.18
Ocher, French medium	lb.	.02¼ @	.03
domestic	lb.	.01¾ @	.02½

COMPOUNDING MATERIALS

Aluminum Flake			
(f.o.b. plant)	ton	21.85 @	24.50
hydrate light	lb.	.16 @	.17
Ammonia carbonate	lb.	.13½ @	.16½
Are-O-Sol	ton	8.00 @	11.00
Asbestine	ton	16.00 @	18.50
Barium carbonate	lb.	.03½ @	—
Barium Dust	lb.	.05 @	.06
Barytes southern off-color, ton		12.00 @	18.00
Western prime white ton		23.00 @	—
imported	ton	27.00 @	36.00
Basofor	lb.	.04½ @	—
Blacks			
Arrow "Aerfloted"	lb.	.08 @	.12
Bone Black	lb.	.05½ @	.11
Carbon, compressed	lb.	.08½ @	.12½
" uncompressed	lb.	.08 @	.12
Drop Black	lb.	.07½ @	.14
Lamp "	lb.	.12 @	.40
Micronex	lb.	.09 @	.13
Thermatomic carbon	lb.	.05 @	—
Blanc fixe cry f.o.b. works	lb.	.04 @	.04½
Carrara filler	lb.	.01¾ @	.02
Catalpo (fact.)	lb.	.02 @	—
Chalk	lb.	.02½ @	.04½
Clay, China, domestic	ton	15.00 @	25.00
Aerfloted Suprex	ton	11.00 @	20.00
Blue Ridge, Dark	ton	9.00 @	—
" " Light	ton	12.00 @	—
Dixie	ton	20.00 @	35.00
Langford	ton	12.00 @	22.00
Mineral Flour, c. l. fob mine	ton	17.00 @	20.00
Seminole, c. l. fob mine	ton	16.00 @	—
Glues, extra white	lb.	.20 @	.29
medium white	lb.	.18 @	.24
common bone	lb.	.12 @	.14
Graphite flake, bbls.	lb.	.06½ @	.12
Magnesia, carbonate	lb.	.08 @	.08¾
Mica, powdered	ton	90.00 @	100.
Rotten Stone (powdered)	lb.	.02½ @	.04½
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	3.30 @	3.70
Talc, domestic	ton	16.00 @	20.00
Terra Alba	cwt.	1.25 @	2.00
Tripoli, white	lb.	.02 @	.02¼
Whiting, commercial	cwt.	.85 @	1.00
English cliffstone	cwt.	1.50 @	—
Quaker	ton	13.00 @	15.00
Superfine	ton	10.00 @	12.00
Sussex	ton	8.00 @	10.00
Wood pulp XXX	ton	35.00 @	—
" " X	ton	25.00 @	—

MINERAL RUBBER

Genasco (factory)	ton	50.00 @	52.00
Granulated M.R.	ton	33.00 @	38.00
Hydrocarbon, Hard	ton	29.00 @	35.00
Hydrocarbon, Soft	ton	29.00 @	—
320/340 M.P. hydrocarbon (c. l. factory)	ton	47.00 @	52.00
300/310 M.P. hydrocarbon (c. l. factory)	ton	42.00 @	47.00
Paradura	ton	70.00 @	72.50
Robertson, MR, solid	ton	35.00 @	75.00
M.R. (gran)	ton	42.00 @	80.00

SOFTENERS

Acids

Muriatic, 20%	cwt.	.95 @	1.05
Nitric, 36 degrees	cwt.	5.00 @	5.25
Sulphuric, 60 degrees ton		10.50 @	11.50
66 degrees	ton	15..00 @	16.00
Tartaric, crystals	lb.	.29 @	—

Alkalies

Caustic soda, 76%	cwt.	3.76 @	3.91
Soda ash, 58% C.L.	cwt.	1.43 @	1.45½

Oils

Castor, No. 3 bbls.	lb.	.12¼ @	—
Corn, crude, bbls.	lb.	.11¼ @	—
refined	lb.	.13 @	—
Cottonseed, crude		.10½ @	—
Cycline	gal.	.26 @	.34
Glycerine, C.P. drums	lb.	.23½ @	.24
Linseed, RawC.L. bbl.	lb.	.11 @	—
Liquid Rubber	lb.	.12 @	—
Moldrite	lb.	.05 @	.06
Palm, Lagos	lb.	.08½ @	.08¾
Niger	lb.	.08⅛ @	.08¼
Peanut, domestic crude	lb.	.12½ @	—
Petrolatum, white	lb.	.11¼ @	.11¾
amber	lb.	.03⅛ @	.04
dark amber	lb.	.03⅝ @	.03¾
Pine, steam distilled	lb.	.60 @	.65
Rapeseed, refined	gal.	.84 @	.90
blown	gal.	1.00 @	—
Rosin, first rectified	gal.	.60 @	.62
second rectified	gal.	.65 @	.67
Soya Bean, crude		.13¼ @	.13½
Synthecite	lb.	.06 @	—
Tar, commercial	gal.	.30 @	.32

Resins and Pitches

Pitch, Burgundy	lb.	.06½ @	.07½
coal tar	gal.	.05½ @	.06
pine	bbl.	7.50 @	8.50
Rosin, grade K	bbl.	11.25 @	—
Tar Retort	bbl.	16.00 @	17.00
kiln burned	bbl.	15.00 @	16.00
Tackol	lb.	.09 @	.15

Solvents

Alcohol denatured,			
No. 1 bbls.	gal.	.34 @	.47
Benzol, 90%	gal.	.30 @	—
pure		.50 @	—
Carbon bisulphide	lb.	.05½ @	.06¼
tetrachloride	lb.	.07 @	—
Motor gasoline,			
steel bbls.	gal.	.22 @	—
Naptha, V. M. & P.	gal.	.20 @	.21
Turpentine, spirits	gal.	.86 @	.87
wood	gal.	.80 @	.84

Waxes

Beeswax	lb.	.60 @	.62
Carnauba, No. 1	lb.	.50 @	.51
Ceresin, white	lb.	.09 @	.10
Montan, crude	lb.	.06 @	.06½
Ozokerite, black	lb.	.24 @	.25
green	lb.	.26 @	.30
ParaffineWhiteA.M.P.	lb.	.05½ @	.05¼
Yellow A.M.P.	lb.	.05¼ @	.05⅝
Sweet Wax	bbl.	.10 @	—

ANTI-OXIDANTS

Age-Rite	lb.	.85 @	.90
Antox	lb.	.88 @	—
VGB	lb.	.66 @	.70

SUBSTITUTES

Black	lb.	.08½ @	.14
White	lb.	.10 @	.17
Brown	lb.	.10 @	.15

VULCANIZING INGREDIENTS

Ethyl Chloride, Cyl.	lb.	.55 @	—
" " Drums	lb.	.45 @	—
Sulphur Chloride (drums)	lb.	.04 @	—
Sulphur flour			
Superfine, bags	cwt.	2.20 @	2.75
" bbls.	cwt.	2.35 @	3.10
100% pure, refined,			
bags	cwt.	2.60 @	3.15
bbls.	cwt.	2.85 @	3.40

Cotton Reports Unsettle Prices

Market Rises on News of Unfavorable Condition Report—Tire Fabrics Show Continued Activity

NEW YORK, Sept. 2, 1926—The main feature of the cotton market during the past two weeks was the Government crop report issued on August 23rd. This report indicated a decrease of 373,000 bales during the period from August 1 to August 16.

A crop of 15,248,000 bales this year was indicated by the condition on Aug. 16, which was 63.5 per cent of a normal, compared with 15,621,000 bales indicated on a condition of 68.8 on Aug. 1, the Department of Agriculture announced. Last year 16,103,679 bales were produced and the Aug. 16 condition was 62.

If developments during the rest of the season are as unfavorable as during 1921-22-23, the crop-reporting board stated, a production of about 14,800,000 bales might be expected. If conditions are as favorable as during 1924-25, production of about 16,221,000 bales may result.

This report gave local traders a distinct surprise with the result that prices immediately rose three-quarters of a cent and closed a full cent higher than the day's opening.

The loss of over 6 points in the average condition was mainly contributed by Texas with a reduction of 12 points and Oklahoma with a loss of 13 points. As the acreage in the two States is about 24,000,000 or 50 per cent of the entire area under cotton cultivation this year, and insects were described as very destructive in the Southwest, a rush of buying swept prices upward rapidly. Spot quotations at Southern markets were advanced 75 to 110 points.

For several days after the issuance of the crop report, prices continued to rise, a condition which was not attributable to the report but rather to receipt of news that storm warnings had been issued along the Texas and Louisiana coasts. These warnings caused an immediate advance ranging from a quarter to a half cent. During these days, prices rose at one time to 18.05 for October, the highest in several months. On the 26th., however prices were unsteady and they eased off somewhat. Again during the last few days of the month, prices rose, then rebounded when heavy rains in Oklahoma and Arkansas exerted a stimulating influence on trading. The market was decidedly unsettled today in anticipation of the Labor Day holidays, and the range of prices was in a very narrow range. Closing quotations will be found in price summaries on this page.

Current COTTON and FABRIC *Quotations*

COTTON CLOSING PRICES

	Open	High	Low	Close Sept. 2	Close Aug. 17
Oct.	17.72	17.80	17.70	17.72	16.75
Dec.	17.79	17.84	17.75	17.79	16.72
Jan.	17.87	17.92	17.82	17.88	16.79
Mar.	18.12	18.14	18.04	18.08	17.01
May	18.28	18.30	18.19	18.25	17.20

TIRE FABRICS

CORD			
Peeler, carded, 23/5/3	lb.	.42 @	.44
Peeler, carded, 23/4/3	lb.	.43 @	—
Peeler, carded, 15/3/3	lb.	.39½ @	.40
Peeler, carded, 13/3/3	lb.	.38 @	39
Egyptian, carded, 23/5/3	lb.	.48 @	.50
Egyptian combed, 23/5/3	lb.	.56 @	.57
SQUARE WOVEN			
Carded American, 17¼ oz. 23-11 ply	lb.	.41 @	.43
Carded American, 17¼ oz. 10-5 ply	lb.	.38 @	—
LENO BREAKER			
Carded American, 8 oz.	lb.	.42 @	.45
Carded American, 10 oz.	lb.	.42 @	.45
CHAFERS			
Carded American, 8¼ oz.	lb.	.42 @	—
Carded American, 9½ oz.	lb.	.42 @	.43
Carded American, 12 oz.	lb.	.42 @	.43
Carded American, 14 oz.	lb.	.41 @	.42

SHEETINGS

40-inch 2.50-yard	yd.	.12¾ @	—
40-inch 2.85-yard	yd.	.11 @	.11¼
40-inch 3.15-yard	yd.	.12½ @	.12¾
40-inch 3.60-yard	yd.	.10 @	.10¼
40-inch 3.75-yard	yd.	.09¼ @	.09½
40-inch 4.25-yard	yd.	.08¼ @	.08⅜

DUCKS

Belting and Hose	lb.	.32 @	.34
Enameling	lb.	.34 @	.37
Shoe Ducks	lb.	.37 @	.38
Single filling	lb	.14 @	.16½
Double filling	lb.	.17½ @	.18

Sheetings

Activity in sheetings was fair during the middle of August but toward the last of the month inquiries fell off considerably. Several manufacturers of rubberized goods were in the market in the third week of the month, but it seems that they were sounding out the market without intending to place orders. Certain constructions were in demand for spot delivery within the past few days but on the whole, sheetings have shown little movement since prices were advanced.

Ducks

Scattered business has been the rule in ducks during the past fortnight, with most of the trading in small lots. Some mills have refused to consider offers of mechanical goods manufacturers on account of the low prices and several have limited their production rather than operate at a loss. Prices quoted remain unchanged but lots have changed hands at prices considerably under those quoted.

Tire Fabrics

The strong tone reported in our last issue continued right through the month of August with substantial poundage reported sold for October delivery. There is a tendency however on the part of tire factories to hold off committing themselves too far into the future despite the high production schedules being maintained throughout the industry. This feeling has caused some uneasiness among fabric mills but the character of inquiries being made indicate that a large volume of business will be placed very shortly. Prices have advanced about a cent right along the line but considerable inside trading at shaded prices is reported. Most of the recent inquiries have been for delivery during the closing months of 1926 with little interest shown in next year. The revised quotations for the standard constructions are given in the adjacent column.

J. H. LANE & CO.

Tire Fabrics Cord Fabrics

Enameling Duck Drill Sheeting

Osnaburg and Special Constructions

250 W. 57 Street, NEW YORK 323 South Franklin St., CHICAGO

The Market Place

WHERE TO OBTAIN
Machinery, fabrics, chemicals, compounding ingredients, crude and reclaimed rubber, consulting chemical
1.

ACCELERATORS—X L O and Diphenyl Guanidine.
Dovan Chemical Corp.
30 Church St. New York

ACCELERATORS — Two new accelerators: Vulcone and Di-ortho-tolylguanidine.
E. I. du Pont de Nemours & Co., Inc.
Dyestuffs Dept. Sales Div.
Wilmington, Del.

ACCELERATORS
Grasselerator 102
Grasselerator 552
Grasselerator 808
Grasselli Chemical Co.
Rubber Service Dept.
347 Madison Ave., New York

ACCELERATORS— Every lot is tested before shipment and a written guarantee of quality furnished.
Roessler & Hasslacher Chem. Co.
709 Sixth Ave. N. Y. City

ACCELERATORS—A19, A7, Thiocarbanilid.
The RUBBER SERVICE Laboratories Co.
611 Peoples Savings & Trust Bldg.
Akron Ohio

ANTIMONY Pentasulphide, golden and crimson, very fine, pure.
Rare Metal Products Co.
Belleville, N. J.
Direct Factory Representation

ASBESTINE—
pared for use in Rubber. Send for liberal working sample.
SOLE PRODUCERS
International Pulp Co.
41 Park Row, New York City

The* BLUE LIST *of the Industry

Your Products Listed Here

reach buyers in rubber factories at a cost lower than is possible by any other method.

ARRANGE FOR YOUR LISTING TODAY!

BEAD CABLES— National Flat Woven and Pratt Patent Bead Cables.
National Standard Co.
Niles, Mich.

BOLTON BIAS CUTTER
Cuts cord or flat woven fabrics with equal ease and precision. In use all over the world.
Spadone Machine Co., Inc.
15 Park Row New York

CALENDERS—Embossing, for artificial leather, oil cloth etc.
Textile-Finishing Machinery Co.
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CARBON BLACK—*Micronex* the world's standard gas black, universally known as the "King of Rubber Pigments."
Binney & Smith Co.
41 East 42nd St. New York City

CARBON BLACK
Godfrey L. Cabot, Inc.
Manufacturers for forty years.
940 Old South Bldg., Boston, Mass.
612 Metropolitan Bldg., Akron, O.

CARBON BLACK—*Aerfloted* Arrow Black for rubber compounding. Standard for grit-free uniformity.
J. M. Huber, Inc.
130 West 42nd St. New York

CARBON BLACK — *Black Goose Brand*—free from grit and impurities and imparts high tensile strength to the rubber compound.
Union Power Co., Inc.
810 United Bldg., Akron, Ohio. 607 Com'l. Nat'l. Bank Bldg., Shreveport, La. 25 West 43rd St., New York, N. Y.

CARBON BLACK or any other compounding material used by rubber manufacturers can be marketed at low cost by listing it in *The Market Place.*

CASES—Fibre construction, insure satisfactory shipping results. Send for sample.
Brooklyn Fibre Syndicate, Inc.
Decatur St. & Irving Ave.
Brooklyn, N. Y.

CATALPO — The universal and standard rubber pigment now being used in treads, solids, tubes, carcass frictions, etc.
Moore & Munger
33 Rector Street
New York City

CHEMISTS read your listing in the MARKET PLACE. There is no cheaper way to reach these prospects.
Try It!

THE MARKET PLACE Section Continued on Second Page Following.

STATISTICAL SECTION

TIRES & TUBES
CRUDE RUBBER

AUTOMOBILES
GASOLINE

THE FIRST month of the new rubber restriction quarter ended August 31 with the average London price of ribbed smoked sheets standing at 19.46 pence. The required average for the entire quarter to prevent Malaya and Ceylon being put back on an 80 per cent exportation basis is 21.00 pence. It is therefore easy to compute that the price on the approximately fifty market days to come during September and October must average 21.75 pence or slightly better. September has started without any appreciable change in the London rubber market as will be seen in the table on this page.

As a rule no preliminary figures are entered in any of the tables in this section. Estimates are never used. An attempt is made always to go to authoritative and final sources. However, some government figures are altered from time to time through the inclusion of data not available when the report was first prepared. This condition has accounted for the double revision of part of the automobile production table on the third page following.

Average Spot Closing Prices--Ribbed Smoked Sheets

(New York Market)

Average Price per Pound for Years 1910-1920

Year	*Cents*	*Year*	*Cents*	*Years*	*Cents*
1910	206.60	1914	65.33	1918	60.15
1911	141.30	1915	65.85	1919	48.70
1912	121.60	1916	72.50	1920	36.30
1913	82.04	1917	72.23		

Average Monthly Price per Pound since 1921

Months	1921 *Cents*	1922 *Cents*	1923 *Cents*	1924 *Cents*	1925 *Cents*	1926 *Cents*
Jan.	19.18	18.82	32.73	25.86	36.71	79.50
Feb.	17.96	16.12	35.14	25.29	36.01	62.25
Mar.	17.05	14.53	34.21	23.83	41.00	59.00
Apr.	16.72	15.99	32.48	22.51	43.64	51.25
May	15.82	15.25	27.39	19.89	58.47	47.75
June	12.49	15.11	26.88	18.81	77.26	42.50
July	14.01	14.67	26.10	22.16	103.16	41.03
Aug.	14.04	13.93	28.84	26.17	82.99	38.50
Sept.	14.53	14.44	28.95	27.56	88.88	
Oct.	16.02	19.78	26.93	31.13	98.01	
Nov.	18.06	23.88	27.14	34.33	104.80	
Dec.	20.47	27.42	26.60	37.88	98.51	
Average for Year	16.36	17.50	29.45	26.20	72 46	

London Closing Prices of Ribbed Smoked Sheet

(In pence per pound)

Fourth Restriction Year—Fourth Quarter

Day	*Aug.*	*Sept.*	*Oct.*	*Day*	*Aug.*	*Sept.*	*Oct.*
1	—	19¾		16	19½		
2	—			17	19⅝		
3	18⅞			18	19⅝		
4	18½			19	20		
5	18⅞			20	19⅞		
6	19½			21	19⅞		
7	19½			22	—		
8	—			23	19⅞		
9	19			24	19¾		
10	19¼			25	19⅝		
11	19			26	19⅜		
12	19⅜			27	19⅝		
13	19½			28	19¾		
14	19½			29	—		
15	—			30	20		
				31	19⅞		

(The average price for the period for which daily prices are reported above is approximately 19.476 pence. The British Colonial Secretary has announced that only 80% of the standard production will be exportable from the restricted area during the next quarter if the price during the entire current quarter does not average at least 21 pence.)

Average Price in Previous Quarters

Quarter	1922-23	1923-24	1924-25	1925-26
Nov-Jan	14.285	14.175	17.9983	46.709
Feb-Apr	16.858	12.917	19.356	28.103
May-July	14.242	10.974	38.469	21.001
Aug-Oct	14.944	14.632	43.269	

U. S. Imports and Exports of Crude Rubber.

	Gross Imports			Re-exports			Net
YEARS	*Long Tons*	*Total Declared Value*	*Average Declared Value per pound Cents*	*Long Tons*	*Total Declared Value*	*Average Declared Value per pound Cents*	*Long Tons*
1900	22,026	$28,577,789	57.92	1,718	$2,839,668	73.77	20,308
1901	24,617	28,120,218	51.00	1,663	2,425,727	65.11	22,954
1902	22,702	25,158,591	49.47	1,457	1,877,698	57.52	21,245
1903	24,886	35,152,642	63.06	1,646	2,598,416	70.47	23,240
1904	27,629	43,784,297	70.75	1,540	2,749,234	79.70	26,089
1905	28,637	48,517,906	75.63	1,616	3,149,989	87.00	27,021
1906	30,316	53,391,137	78.62	1,676	3,153,775	84.02	28,640
1907	30,649	49,813,361	72.56	1,832	3,509,903	85.55	28,817
1908	34,058	44,696,526	58.59	1,655	2,466,428	66.52	32,403
1909	41,950	79,264,817	84.35	2,161	4,233,921	87.46	39,789
1910	40,241	98,007,295	108.73	2,749	8,134,064	132.07	37,494
1911	36,987	74,410,550	89.81	2,523	4,977,174	88.07	34,464
1912	52,705	99,567,071	84.34	2,456	4,692,262	85.31	50,249
1913	51,732	76,820,739	66.29	1,881	3,396,429	80.62	49,851
1914	63,868	70,472,704	49.26	2,618	3,244,346	55.32	61,250
1915	98,876	111,031,144	50.13	2,082	2,357,350	50.54	96,794
1916	120,576	159,745,475	59.15	4,098	5,330,100	58.07	116,478
1917	181,089	233,220,904	57.49	4,000	5,305,289	59.21	117,089
1918	145,518	146,378,313	44.91	2,746	3,133,622	50.95	142,772
1919	239,259	215,820,113	40.27	2,282	2,205,629	43.15	236,977
1920	252,922	242,795,773	42.86	4,160	2,846,898	30.55	248,762
1921	185,394	73,772,677	17.76	5,716	2,414,924	18.86	179,678
1922	301,076	101,843,188	15.10	4,809	1,921,828	17.84	296,267
1923	309,144	185,060,304	26.73	8,772	5,672,319	28.87	300,372
1924	328,056	174,231,331	23.71	10,309	6,057,637	26.23	317,747
1925:							
Jan.	32,898	22,406,756	30.41	1,162	963,593	37.02	31,736
Feb.	24,696	18,532,115	33.50	979	779,406	35.53	23,717
Mar.	33,072	25,146,691	33.94	1,345	1,105,119	36.69	31,727
Apr.	32,506	24,874,562	34.16	1,130	1,009,305	39.86	31,376
May	36,932	30,311,754	36.64	1,203	1,323,445	49.12	35,728
June	31,569	26,855,883	37.98	1,198	1,577,106	58.75	30,371
July	32,455	33,701,723	46.36	1,278	2,132,681	74.52	31,177
Aug.	33,412	39,834,348	53.22	1,131	1,623,258	64.08	32,281
Sept.	36,367	36,686,013	62.11	1,154	1,820,360	70.41	25,213
Oct.	34,651	50,027,338	64.45	1,132	1,989,291	78.48	33,519
Nov.	37,755	56,271,963	66.54	1,605	2,898,930	80.65	36,150
Dec.	40,329	65,055,868	72.02	1,510	2,625,259	77.61	38,819
	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1926:							
Jan.	42,404	72,528,151	76.36	2,084	3,747,505	80.28	40,320
Feb.	32,865	58,733,370	79.78	1,430	2,280,168	71.17	31,435
Mar.	42,152	70,589,581	74.76	1,836	2,735,234	66.51	40,316
Apr.	34,544	48,742,539	62.99	1,128	1,605,093	63.58	33,416
May	29,756	36,896,080	55.35	1,052	1,558,987	66.17	28,704
June	24,900	34,498,561	61.85	1,105	1,371,217	55.41	23,795
July	35,820	33,061,470	41.20				
Aug.							
Sept.							
Oct.							
Nov.							
Dec.							

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J. H. Lane & Co.
250 West 57th St. New York City

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R. T. Vanderbilt Co.
50 East 42nd St. New York City

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THE MARKET PLACE Section Continued on Second Page Following.

United States Tire and Tube Statistics[1]

Production, Sales, and Inventories[2]

AUTOMOBILE CASINGS

	Production During Month					Sales During Month					Inventory at End of Month				
	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926
Jan.	1,740	4,170	4,294	4,740	4,721	2,194	4,114	3,785	4,013	2,974	5,566	6,261	6,411	7,949	9,947
Feb.	2,779	4,291	4,373	4,908	4,865	2,144	3,568	3,849	3,924	3,436	6,255	6,966	7,020	8,928	11,164
Mar.	3,528	5,154	4,570	5,276	5,456	2,847	4,570	3,988	4,657	4,561	6,911	7,561	7,684	9,510	12,004
Apr.	3,202	4,719	4,410	5,341	5,346	2,853	4,106	4,018	5,498	4,980	7,286	8,118	8,219	9,088	12,461
May	3,629	4,880	4,051	5,467	5,023	3,608	3,793	3,693	5,954	5,211	7,364	9,209	8,442	8,611	12,343
June	2,785	3,943	3,506	5,418	5,422	4,281	3,448	3,671	6,737	5,724	6,723	9,387	8,207	7,243	11,968
July	3,302	2,657	3,403	5,587		3,678	3,463	4,748	6,298		6,445	8,628	6,851	6,421	
Aug.	3,874	3,141	4,313	5,607		4,153	3,803	5,010	4,760		6,173	8,078	5,969	7,261	
Sept.	3,340	2,706	4,708	5,007		3,407	3,563	4,539	4,569		6,149	7,197	6,033	7,681	
Oct.	3,566	3,148	5,169	4,505		3,534	3,821	4,196	5,580		6,244	6,502	7,118	6,670	
Nov.	3,644	3,200	4,253	4,229		3,248	3,408	4,480	3,671		6,620	6,252	6,943	6,955	
Dec.	3,543	3,250	4,584	4,760		4,040	3,547	4,143	3,601		6,132	5,772	7,427	8,142	
	40,932	45,259	51,633	60,845		39,987	45,204	50,120	59,262						

AUTOMOBILE INNER TUBES

	Production During Month					Sales During Month					Inventory at End of Month				
	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926
Jan.	3,125	5,269	5,184	6,343	6,809	2,552	5,091	4,723	5,576	3,723	6,996	7,784	8,960	11,570	14,361
Feb.	3,462	5,386	5,424	6,339	6,825	2,310	4,085	4,530	4,971	3,736	8,189	9,029	9,786	13,023	17,090
Mar.	4,023	6,501	5,625	7,000	7,030	2,848	5,214	4,667	5,711	4,987	9,321	10,321	10,877	14,236	19,131
Apr.	3,534	5,679	5,380	6,851	6,554	3,162	4,825	4,782	6,704	5,051	9,640	11,192	11,503	13,618	20,674
May	3,961	5,757	4,992	6,846	6,149	3,995	4,651	4,865	8,040	6,304	9,586	12,390	11,682	12,501	21,141
June	4,174	4,787	4,658	6,942	6,171	5,391	4,882	5,286	9,032	6,898	8,249	11,899	10,888	10,409	20,243
July	4,091	3,500	5,143	7,544		4,905	5,374	7,190	9,140		7,568	9,862	8,845	8,635	
Aug.	5,078	4,771	6,688	7,618		5,733	5,800	7,493	6,923		6,943	9,267	7,678	9,271	
Sept.	4,669	4,339	7,342	7,254		4,797	4,966	6,908	6,665		6,886	8,610	8,052	9,950	
Oct.	5,050	5,140	7,861	6,612		4,618	4,848	5,700	7,845		7,317	9,198	9,803	8,726	
Nov.	5,135	4,602	6,136	6,266		4,165	4,604	6,332	5,406		8,280	8,925	10,224	9,491	
Dec.	4,548	4,385	6,273	6,999		5,197	4,732	5,540	4,991		7,643	8,425	11,052	11,313	
	50,850	60,116	70,706	82,614		49,673	59,072	68,016	81,004						

(1) *Statistics of The Rubber Association of America, raised to 100%.* (2) *All figures expressed in thousands.*

Stock of Crude Rubber in United States and London

(All Quantities in Long Tons)

UNITED STATES

At End of	ON HAND			AFLOAT			ON HAND AND AFLOAT		
	1924	1925	1926	1924	1925	1926	1924	1925	1926
Jan.	——	60,870	55,198	——	36,759	46,296	——	97,629	100,434
Feb.	——	54,109	58,035	——	41,475	46,935	——	95,584	104,970
Mar.	——	52,494	61,822	——	40,577	43,567	——	93,071	105,389
Apr.	——	50,143	55,261	——	53,465	41,905	——	103,608	97,166
May	——	52,064	64,360	——	46,846	40,303	——	98,910	104,663
June	——	50,997	60,460	——	51,202	40,907	——	102,199	101,367
July	——	46,245	64,900	——	46,003	38,062	——	92,248	102,962
Aug.	——	42,354		——	41,254		——	83,608	
Sept.	——	36,367		——	55,151		——	91,518	
Oct.	55,378	34,085		46,359	51,098		101,737	85,183	
Nov.	59,017	34,885		35,685	42,692		94,702	86,577	
Dec.	56,080	51,215		46,216	48,208		102,296	99,423	

(Rubber Association of America figures raised to 100%.)

LONDON

(In Wharves and Warehouses—Figures Include Latex)

At End of:	1920	1921	1922	1923	1924	1925	1926
January	19,300	56,573	67,232	73,498	57,460	27,172	9,994
February	18,329	59,439	67,623	70,483	56,732	23,425	10,004
March	18,969	63,913	66,670	63,438	55,647	18,104	13,750
April	20,072	68,759	68,637	58,770	54,559	12,949	18,951
May	20,921	70,403	70,146	54,439	51,615	5,895	20,896
June	22,517	69,408	71,597	51,050	51,115	5,318	25,063
July	25,346	71,065	71,515	49,937	52,073	4,258	27,766
August	30,674	73,211	72,112	48,427	49,700	4,619	
September	35,504	72,175	70,977	54,523	44,011	5,453	
October	41,743	69,229	68,536	58,891	37,523	5,086	
November	45,550	70,786	68,548	60,074	33,593	3,869	
December	50,652	69,792	72,299	60,246	29,488	5,697	

United States Consumption of Gasoline

(Gallons)

MONTHS:	1918	1919	1920	1921	1922	1923	1924	1925	1926
January	144,579,291	169,240,627	236,073,140	294,750,791	282,717,148	456,967,163	500,420,689	595,413,000	720,358,000
February	147,204,377	185,900,192	248,395,214	225,195,372	262,925,732	380,093,070	402,703,876	543,640,000	650,718,000
March	219,333,317	201,004,317	256,020,539	346,164,546	380,406,778	446,460,208	467,181,088	625,053,000	779,571,000
April	265,151,411	243,440,615	297,000,463	333,290,921	385,230,994	485,716,788	607,175,026	798,305,000	831,410,000
May	313,824,603	327,610,273	378,912,692	354,263,486	499,724,405	582,535,781	672,495,321	841,787,000	989,857,000
June	306,677,723	305,960,438	427,747,291	442,924,973	506,959,446	633,504,590	682,409,140	868,350,000	969,051,000
July	353,589,555	396,242,260	434,879,617	457,758,078	566,099,329	674,019,467	789,666,590	963,071,000	1,014,804,000
August	339,435,744	376,484,274	479,741,391	505,035,827	583,687,932	692,154,000	828,057,847	931,901,000	
September	284,685,213	367,633,742	450,888,670	438,083,634	507,924,207	655,797,616	718,068,623	848,867,000	
October	299,642,892	338,429,709	384,802,246	454,995,551	490,393,454	621,172,668	751,499,199	831,774,000	
November	245,278,844	284,620,809	366,567,344	350,548,481	471,616,103	538,308,809	698,359,199	757,744,000	
December	209,863,377	238,245,230	289,673,556	313,015,596	434,399,514	518,305,120	657,967,000	759,699,000	
TOTAL	3,129,266,347	3,434,812,486	4,250,696,163	4,516,027,256	5,372,085,042	6,685,035,280	7,770,238,000	9,365,604,000	

The Market Place

3.

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MOLDS AND CORES—
Tire building equipment; general machine work.
The Akron Equipment Co.
Akron, Ohio

MOLDS & CORES—Tire building machines; tire finishing stands; tubing machines; hydraulic presses.
The Akron Standard Mold Co.
Akron, Ohio

MOLDS & CORES—for automobile tires; general machine work.
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THE MARKET PLACE Section Continued on Second Page Following.

Exports of Crude Rubber from Principal Producing Countries

(Figures in Long Tons)

	British Malaya[1]								Dutch East Indies[2]			French[3]		
	Gross Exports	*Imports*	*Net Exports*	*Ceylon*[3]	*India & Burma*[3]	*Sarawak*[4]	*Br. North Borneo*[4]	*Siam*[4]	*Java & Madura*	*Sumatra E. Coast*	*Other D.E.I.*	*Indo-China*	*Amazon Valley*[5]	*Total*[7]
1923	252,016	70,432	181,584	37,112	6,416	5,433	1,744	1,718	32,938	44,002	57,822	5,606	19,859	394,263
1924	259,760	107,419	152,341	37,351	7,697	6,485	1,892	2,962	42,446	52,499	80,347	6,688	23,164	413,872
1925	316,825	158,022	158,803	45,684	10,082	8,460	2,308	5,378	46,643	62,678	119,271		25,307	
1925:														
Jan.	19,183	10,132	9,051	3,065	1,090	605	180	404	3,053	5,097	5,858	701	1,712	30,816
Feb.	21,622	10,071	11,551	2,207	1,121	469	148	283	3,490	5,139	8,569	586	2,977	36,540
Mar.	26,836	13,399	13,437	4,201	984	756	209	437	4,583	5,499	10,807	487	2,459	43,859
Apr.	22,414	11,751	10,663	3,250	684	483	164	384	4,121	4,663	8,536	482	1,585	35,015
May	26,667	12,979	13,688	2,600	585	717	189	489	3,624	4,455	12,006	599	2,588	41,540
June	27,894	14,706	13,188	3,502	831	1,046	195	430	4,187	4,667	10,644	833	1,653	41,176
July	24,809	16,192	8,617	4,487	680	955	218	533	4,719	5,244	10,516	411	1,142	37,522
Aug.	27,753	12,025	15,728	3,409	671	548	194	436	3,210	5,186	9,445	484	1,810	41,121
Sept.	29,425	12,913	16,512	4,758	745	766	218	533	3,364	4,913	10,628	764	2,140	45,341
Oct.	28,711	14,986	13,725	5,270	516	639	199	708	3,516	5,511	11,767	683	2,240	44,774
Nov.	31,648	14,904	16,744	3,980	1,044	838	186	411	4,657	6,349	11,958	991	2,620	49,778
Dec.	29,863	13,964	15,899	4,955	1,131	638	208	330	4,119	5,955	8,537	860	2,381	45,013
	316,825	158,022	158,803	45,684	10,082	8,460	2,308	5,378	46,643	62,678	119,271	7,881	25,307	492,495
1926:														
Jan.	30,452	10,237	20,433	4,058	1,273	416	196	288	4,397	6,277	8,081	915	1,284	47,618
Feb.	30,440	8,306	22,134	4,941	725	488	141	253	4,474	5,734	6,801	554	2,759	49,004
Mar.	35,012	14,800	20,212	5,708	1,113	792	232	418	4,865	5,612	11,880	640	2,126	53,598
Apr.	23,727	10,565	13,162	3,484	590	679	251	294	4,522	4,598	6,208		2,318	
May	31,231	10,604	20,627	3,600	691				4,742	5,293	8,606		1,353	
June	30,624	11,764	18,860	3,906	452				4,762	5,852	9,550			
July	28,824	15,280	13,544											
Aug.														
Sept.														
Oct.														
Nov.														
Dec.														

(1) Malayan net exports cannot be taken as Malayan production since much of the imported rubber contains a high percentge of moisture and impurities which are eliminated before it is re-exported; the Malayan figures do not contain rubber exported as latex which on the basis of 3 pounds per gallon amounted to 99 tons in 1923, 957 tons in 1924 and 3,101 tons in 1925. (2) Ceylon Chamber of Commerce statistics until 1926. (3) Official statistics. (4) Figures for Sarawak, British North Borneo and Siam are imports from these territories into Singapore through which port practically their entire production moves. (5) Exports from "Other Dutch East Indies" are chiefly native rubber which contains one-third of moisture and impurities for which no allowance has been made in the statistics; rubber shipped as latex has not been included and amounted to 6,355 tons in 1923, 2,735 tons in 1924 and 6,207 tons in 11 months of 1925. (6) Exports through Para, Manaos and Iquitos. (7) This total includes the net exports from British Malaya and all the figures shown for the other territories.

Net Imports of Crude Rubber into Principal Manufacturing Countries

(Long Tons)

	United States	*United Kingdom*	*France* (abd)	*Germany*	*Canada* (ac)	*Japan* (ac)	*Italy*	*Russia* (ce)	*Australia* (cf)	*Belgium* (d)	*Netherlands*	*Sweden* (abcd)	*Norway* (abc)	*Denmark* (abd)
1919	236,977	42,671	19,951	5,584	8,770	10,688	9,894	75	733	3,995	2,771	2,022	437	673
1920	248,762	56,844	15,868	11,890	11,912	6,015	6,123	62	1,040	3,840	5,510	1,567	241	479
1921	179,678	42,087	16,981	21,920	8,248	22,981	3,906	165	554	1,705	1,022	813	178	251
1922	296,267	11,724	27,644	27,546	9,366	16,449	6,430	2,453	2,649	172	-3,807	1,248	321	87
1923	300,372	12,700	31,067	18,519	13,299	17,181	8,489	4,506	1,631	2,184	792	1,391	448	354
1924	317,747	-11,550	34,488	22,727	14,420	19,612	8,764	824	3,127	2,688	-807	1,781	669	473
1925	381,815	4,061	36,911	33,937	19,825	12,743	11,412	7,088	4,217	2,930	875	1,690	701	440
1925:														
January	31,736	-284	2,147	4,303	1,432	797	552	333	192	331	109	164	64	16
February	23,717	-2,492	3,529	3,690	1,278	658	908	1,000	338	275	88	136	145	37
March	31,727	-3,396	3,924	2,784	2,349	689	1,463	1,083	357	373	56	183	77	71
April	31,376	-2,961	3,069	3,574	1,397	719	817	535	314	97	181	149	47	22
May	35,729	-8,650	3,223	3,834	1,532	863	1,060	1,999	385	228	47	126	47	16
June	30,371	619	2,387	3,239	1,681	2,095	1,506	59	378	329	120	97	43	74
July	31,177	2,204	1,827	2,606	1,613	813	650	16	341	176	28	114	45	24
August	32,281	3,825	1,109	2,942	1,582	786	631	85	297	169	76	119	53	35
September	25,213	5,369	4,633	2,667	1,202	936	939	234	429	283	136	102	54	20
October	33,519	1,203	3,039	2,325	1,799	1,060	914	21	243	255	60	159	38	38
November	36,150	2,466	4,654	1,260	1,712	2,140	1,157	190	512	236	-12	219	55	52
December	38,819	6,158	3,370	713	2,248	1,187	815	1,533	431	178	-14	122	33	35
1926:														
January	40,320	6,439	3,170	703	2,188	892	760	332	358	76	154	123	46	51
February	31,435	3,114	3,513	1,113	1,685		1,041	643	433	275	89	171	82	94
March	40,316	8,907	4,790	1,342	2,079		1,037	832	469	129	227	213	31	55
Apr.	33,416	8,275	4,834	1,781	1,615		865	402			93	204	27	23
May	28,704			1,848				200			241	110	24	47
June	23,795	5,894		1,655				983			214	178		
July														
Aug.														
Sept.														
Oct.														
Nov.														
Dec.														

a—Including gutta percha. b—Including balata. c—Reexports not deducted. d—Believed to include scrap and reclaimed rubber. e—Russian statistics are exports from United Kingdom only to Russia. f—Australian annual statistics including 1924 are exports to Australia from Malaya, Ceylon, Dutch East Indies and United Kingdom; monthly figures and total for 1925 are exports from Malaya, Ceylon, and Java only. -Minus sign, reexports in excess of imports. *All statistics from original official trade returns.*

The Market Place

4.

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Buyers will see your products if they are listed in THE MARKET PLACE regularly, for they consult this section twice-every-month for their needs.

Daily Spot Closing Prices of Ribbed Smoked Sheet Rubber

Daily Spot Closing Prices of Ribbed Smoked Sheet Rubber—*New York Market, in Cents per Pound*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31 Average
1924																															
Jan.	—	26¼	26⅜	26½	26⅜	—	26⅝	26½	26⅜	26¼	26½	26½	—	25⅞	26¼	26	26½	25⅞	25⅞	—	25¼	25¼	25½	24⅞	25⅝	25¼	25¾	25¾	—	—	25¼
Feb.	25⅝	25⅞	—	25⅞	25½	25¼	25⅜	25⅜	25⅜	25⅜	25⅝	25⅜	25½	25⅜	25⅜	25¼	25½	25⅝	25⅝	25½	25⅝	25⅝	25½	25½	—	—	—	25¼	25¼	—	25¼
Mar.	25⅝	—	24¾	24	24¼	24½	24½	24¼	24¼	23¾	23¼	22⅞	22⅞	22⅞	22⅞	22⅛	21	21⅝	—	22	21⅝	21⅝	21⅝	22⅜	—	22	21⅝	21⅝	22	—	22
Apr.	22½	22⅞	22½	22	—	—	22½	22¾	22¼	22¼	22¼	22¼	22¼	22⅞	22¾	22¼	—	—	18	—	22⅛	22⅛	23	23	23¾	22½	23⅛	23	22⅞	22⅝	22⅞
May	22¾	—	22½	21¾	21⅝	21½	21½	21¾	21	21½	—	—	20⅜	20⅜	20	—	18	18	19	19	18⅝	18⅝	18⅝	19⅛	19⅛	18⅝	18⅝	18⅝	18⅝	18⅝	19⅛
June	—	18¼	19¼	19⅝	19¾	19½	19½	—	19¾	19½	19¼	19¼	—	18⅞	18⅞	19	19	18⅝	18½	18½	18½	18½	18½	18⅝	18⅝	18⅝	18⅝	18⅝	18⅝	18⅝	18⅝
July	18⅝	19¼	19¾	—	19⅝	—	19⅝	19⅝	20¼	19⅞	20¾	21¼	21¼	21¼	21¼	22¼	21⅝	21⅝	21⅝	21⅝	21¾	21¾	21¾	22⅛	22⅛	22¾	23⅛	23¾	23¾	23¾	23¾	22¾
Aug.	23⅝	23⅝	—	24	25	25½	27¼	27	27	—	26¾	26½	26½	25⅝	25	25¼	27⅛	27⅛	27⅛	26⅞	26¾	26¾	26½	26⅝	26⅝	26⅝	26⅝	26⅝	26⅝	26⅝	26⅝	26⅝
Sept.	—	26¾	26½	26¾	26¾	26⅞	29⅛	29½	29½	30	31	30⅞	27⅞	27⅞	30⅞	30¾	31½	31½	31½	31¾	32¼	32¼	32¼	32⅝	32⅝	32¾	32¾	32¾	32⅝	32⅝	31½
Oct.	26⅞	29½	29½	29⅞	—	29⅞	29⅛	29½	—	34⅞	34⅜	34⅜	34⅛	34⅛	34⅛	34⅛	34	34	—	34	33⅞	33⅞	34	34	34⅛	34⅛	34⅞	34⅞	35⅛	35⅛	33⅞
Nov.	34¾	—	34⅝	—	34⅞	34¾	34⅞	34½	—	39⅞	39⅞	39⅞	39⅞	39⅞	39⅞	37½	37⅞	38	38⅝	—	39⅜	39⅜	38⅞	38⅞	—	38⅞	38⅞	39⅞	39⅞	40⅛	37⅞
Dec.	35½	35⅝	36	36⅝	36⅞	37⅝	—	37⅝	37⅝	37⅝	37½	37½	37½	37⅞	37⅞	37½	37⅝	38	38⅝	38¾	—	39⅜	38⅞	38½	—	38⅞	38⅞	39⅞	39⅞	40⅛	38½
1925																															
Jan.	—	39⅞	39⅝	—	39	39	39¼	38¾	38⅝	38⅝	—	36½	—	36⅜	36⅝	35⅝	35⅝	34⅞	34⅝	34⅝	35	35½	36¼	36⅜	36⅜	35⅝	35⅝	35⅝	35⅝	35⅝	36⅝
Feb.	—	35⅝	34⅝	34½	34½	34½	35⅝	—	—	35½	35½	35⅝	35⅝	36	36	36⅝	36⅝	36⅝	36⅝	36⅝	36⅝	—	—	37⅜	37⅜	37⅜	37⅜	37⅜	—	—	36
Mar.	—	38⅜	38⅝	38⅞	38⅞	42⅛	42⅛	43⅛	43⅝	40⅛	40¼	39⅝	40⅛	40⅛	40⅛	40⅝	40½	41	41¼	41⅞	41⅞	42⅛	42½	43⅜	43½	43⅜	43⅜	43½	42⅜	42⅜	41
Apr.	41¼	41⅞	41¼	41⅞	42⅛	42⅛	42⅛	42⅛	43⅝	43⅝	—	44⅛	44⅛	44⅝	44⅝	44⅝	44⅝	44⅝	44⅝	44⅝	44⅝	43⅞	43⅞	43⅞	44⅛	44⅛	44⅛	45⅜	44⅝	—	43⅝
May	45	45⅞	—	47⅛	46⅞	48⅜	50⅞	52⅜	55⅝	—	59	57	59¼	60⅝	60¾	71⅝	71⅝	72⅝	73⅝	75⅝	76¼	61⅞	63	65	65	65	65⅝	65⅝	69½	69½	68⅞
June	69½	72	74⅜	76½	75¾	75¾	73⅝	74⅜	73⅝	74	75¼	74⅞	110	105⅝	110⅝	117	116¾	118⅝	80½	94¼	92⅜	99	101¼	110⅞	88¼	86¾	87	89⅝	85⅝	85⅝	77¾
July	81¼	81⅞	85⅜	—	88⅛	90½	95¼	94⅜	—	99⅞	106¼	—	110	105⅝	80¾	77⅜	78¼	80½	92⅜	—	93½	97	99	99¼	107	107	107½	96⅜	93¼	93⅜	103⅝
Aug.	94½	—	95½	88¾	86⅜	81¾	—	71¾	79	81½	76½	81½	92½	93¾	93½	95¼	99¼	109¼	109¼	110¾	110¾	110¾	110½	110½	109¼	106¼	106¼	106¼	87¼	90	83
Sept.	88¾	87¼	85	81¼	81¼	—	97½	78¼	80½	83	86½	92	—	95½	97	105½	101¼	107	107	109¾	110¾	110¼	110½	109	106¼	106¼	106¼	106¼	91½	91½	88⅞
Oct.	91¼	91¼	92	94½	97	97	100¼	99	98¼	101	99½	100¾	101¾	104½	105½	107	109¾	110¾	110¾	110¾	110¾	110¾	110½	109¼	106¼	106¼	106¼	106¼	99¾	100¼	98
Nov.	99¾	98¾	98¾	98¾	98¾	100	100¾	—	98¼	99¼	106	105½	105½	—	101	107	107	109¾	110¾	110¾	110¾	110¾	110½	109¼	106¼	106¼	106¼	106¼	107	91¼	104¾
Dec.	106¾	108½	107¾	107¾	108¾	—	108	109	109¾	106	105½	105½	—	101	99¼	90¼	93	88¼	86¾	—	88¼	90¼	88¾	88¾	—	—	—	91	93	91¼	98½
1926																															
Jan.	—	—	—	—	87	87¼	85½	86½	87½	87¾	—	88¼	88¾	88¼	85¼	82½	—	—	—	—	75½	75	72	72½	—	68	66½	67	69¾	70½	69	—	—	79½
Feb.	—	67	66¾	66¾	68	69	—	—	67	66	66	66	65½	63	63	60½	60	60	62	61	59	60	56	55	55	52	51¼	51	—	—	62¼
Mar.	55	53	—	53½	53½	57¼	—	—	56	56½	60	63	61½	62	62	60½	61	62	61	61	61½	61	61½	60	59½	60	59½	60	58½	58	59
Apr.	48¼	59	59	59	58	56½	56½	56½	53	53	53	51¾	50½	48½	47½	48½	47	47	47	48	48½	47¾	48	48	48½	48	48	48	48½	—	51¼
May	41¾	—	50	50¼	49½	49¾	49¼	49½	49	49	49	49½	48½	47¾	47¾	47¾	47½	47¾	47¾	47¾	47¾	47¾	47¾	47¾	47¾	47¾	47¾	47¾	47¾	—	47½
June	41¾	42	42	42	41¼	—	41¾	42	43	43	43	43	43	43	43	43	43	43	43	43	44	44	44	43½	43½	43	42	42	42	—	42½
July	42	42	42	41¼	41¼	41¼	41¼	41½	41½	41½	—	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41½	41	41	41	39	41¼
Aug.	—	38¾	38½	37	37	38¼	39	—	38¼	37¾	37½	37½	37½	38½	38	38	38	38	38	39	39½	39¼	39	39	39	39	39	39	39½	40	38½
Sept.	40¼	40¼																													
Oct.																															
Nov.																															
Dec.																															

Automobile Production

	Passenger Cars			Trucks		
	Total	United States	Canada	Total	United States	Canada
1920	1,883,158	1,799,522	83,636	322,039	311,531	10,508
1921	1,514,000	1,452,902	61,098	147,550	142,402	5,148
1922	2,397,827	2,302,923	94,904	251,434	244,285	7,149
1923	3,719,164	3,589,936	129,228	378,288	361,078	17,210
1924						
January	293,824	283,983	9,841	30,785	29,038	1,747
February	343,460	331,388	12,072	32,974	31,295	1,679
March	357,045	341,851	15,194	36,505	34,466	2,040
April	346,405	331,957	14,448	38,037	36,104	1,933
May	286,324	271,033	15,291	35,408	33,655	1,753
June	225,079	214,322	10,757	29,135	28,185	950
July	244,544	235,925	8,619	26,448	25,341	1,107
August	255,232	249,796	5,436	28,714	27,834	880
September	263,528	256,940	6,588	32,015	30,663	1,351
October	260,881	254,524	6,357	32,533	31,263	1,270
November	204,343	198,381	5,962	27,956	26,875	1,081
December	182,099	174,899	7,200	27,596	25,906	1,690
Total	3,262,764	3,144,999	117,765	378,106	360,625	17,481
1925						
January	212,921	204,620	8,301	28,198	26,633	1,565
February	252,803	242,024	10,779	34,467	32,774	1,693
March	332,154	319,140	13,014	45,168	43,079	2,089
April	391,302	375,787	15,515	47,898	46,322	1,576
May	382,714	364,363	18,351	43,380	41,492	1,888
June	364,806	350,557	14,249	38,141	36,347	1,794
July	358,554	347,414	11,140	41,915	40,070	1,845
August	221,831	214,401	7,430	37,843	36,357	1,486
September	272,425	262,053	10,372	60,452	57,972	2,480
October	406,572	392,651	13,921	46,003	44,309	1,694
November	336,358	327,617	8,741	40,077	37,840	2,237
December	285,199	277,701	7,493	34,477	32,746	1,731
Total	3,817,639	3,678,328	139,311	498,019	475,941	22,078
1926*						
January	284,703	272,922	11,781	33,461	29,763	3,698
February	334,524	319,763	14,761	41,685	37,608	4,077
March	399,105	381,116	17,989	49,233	44,848	4,385
April	401,836	383,907	17,929	53,887	50,314	3,573
May	394,569	373,140	21,429	51,343	47,838	3,505
June	358,360	339,542	18,818	47,043	44,110	2,933
July	——	315,861	—	—	39,585	—
August						
September						
October						
November						
December						

*Revised Figures

U. S. Consumption of Crude Rubber

(Rubber Association of America statistics raised to 100 per cent—All figures in long tons)

	1921	1922	1923	1924	1925	1926
January	5,045	16,938	30,106	29,058	29,638	32,196
February	5,955	14,767	30,149	25,736	29,761	31,136
March	9,190	21,408	36,629	28,385	33,498	32,936
April	13,084	19,294	29,085	27,129	34,139	32,696
May	16,023	23,246	36,155	25,845	35,322	29,364
June	16,142	31,713	24,272	22,753	35,822	28,598
July	18,310	24,522	17,685	23,396	36,053	27,577
August	23,649	29,361	20,359	28,962	35,909	
September	16,705	24,410	17,594	31,497	31,691	
October	16,814	26,881	21,321	31,520	29,047	
November	14,105	24,950	20,437	27,289	28,853	
December	15,482	25,070	21,902	27,199	28,748	
TOTALS	170,504	282,560	305,694	328,769	388,481	

Monthly statistics covering shipments of various classes of rubber goods from the United States may be secured free of charge from the Rubber Division, Bureau of Foreign & Domestic Commerce, Washington, D.C.

TRADE MARK

United States Rubber Company

MAIN OFFICE:

1790 Broadway, New York

Fifty-Three Factories
Branches in all Principal Cities

Manufacturers of All Classes of Rubber Goods, including—

"U. S." ROYAL CORD AND USCO BALLOON TIRES
"U. S." ROYAL CORD AND USCO CORD TIRES
"U. S." ROYAL CORD MOTORCYCLE BALLOON TIRES
"U. S." ROYAL CORD MOTORCOACH TIRES
"U. S." ROYAL CORD HEAVY SERVICE TIRES
"U. S." HEAVY DUTY CUSHION, CUSHION, and
HIGH SIZE CUSHION SOLID TRUCK TIRES
"U. S." ROYAL, GREY, AND USCO TUBES
"U. S." BICYCLE TIRES, REPAIR MATERIALS, AND ACCESSORIES
"U.S." AUTO TOP MATERIALS "U. S." SPRING-STEP RUBBER HEELS USKIDE SOLES
"U. S." RUBBER FOOTWEAR KEDS SNUG-LER FELT FOOTWEAR
"U. S." RAYNSTER RAINCOATS BELTING—PACKING—HOSE HARD RUBBER PRODUCTS
"U. S." TILE FLOORING USCO SHEET FLOORING NAUGAHYDE LUGGAGE
"U. S." ROYAL GOLF BALLS "U. S." DRUGGIST SUNDRIES
"U. S." PARACORE INSULATED WIRE AND CABLE
"U. S." BATHING APPAREL

United States Rubber Export Co., Ltd.

Exporters of the Products of

United States Rubber Company

AND

Dominion Rubber Company, Limited

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With the Editor

In this issue THE RUBBER AGE publishes a rather complete statement concerning the size and prestige of the Far Eastern plantations of the United States Rubber Company. It may be noted that the figures used in this article have just been checked and revised by officials of that company and hence are somewhat different from those lately used by other journals. Although it is well known that the plantations are extensive, these exact figures will prove enlightening to many.

The profits taken recently by rubber growers and the consequent appreciation in the value of plantation company shares are touched upon in Mr. Blackall's article. Since the author resides in London and is a constant student of all aspects of the rubber trade, his observations may be accepted as entirely authentic.

The careful statement on the interest of the rubber industry in the impending trade mark legislation deserves close reading since in many sections of the industry there have been developed marks of great value. The establishment of such marks will continue and should have adequate safeguards. Mr. Fawcett analyzes the proposed legislation in such a way that rubber company executives can be prepared to criticize or to aid its progress through Congress at the proper time.